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show files;ds
File 350:Derwent WPIX 1963-2001/UD,UM &UP=200161
        (c) 2001 Derwent Info Ltd
File 344:CHINESE PATENTS ABS APR 1985-2001/Aug
        (c) 2001 EUROPEAN PATENT OFFICE
File 347:JAPIO OCT 1976-2001/JUN(UPDATED 011001)
        (c) 2001 JPO & JAPIO
File 371:French Patents 1961-2001/BOPI 200141
        (c) 2001 INPI.  All rts. reserv.

Set     Items   Description
S1    1815547   ID OR IDENTIF? OR FINGERPRINT? OR FINGER()PRINT? OR DETECT?
S2     426277   SPECIES OR CROP? ? OR PLANT? ? OR APPLE? OR TOMATO? OR PEA-
              R? OR PEACH? OR BARLEY? OR CORN OR MAIZE OR WHEAT? OR SOYBEAN?
               OR SOY()BEAN? ? OR RICE
S3      41747   DIFFERENTIAT?
S4    1568094   SPECIES? OR TYPE? OR PHENOTYPE? OR GENOTYPE?
S5       3152   ELISA OR ENZYME()LINK?()IMMUNO?
S6      25293   (S1 OR S3)(3N)S4
S7         20   S6 AND S2 AND S5
S8          7   S7 NOT AD=>971231
?
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8/7/all

**8/7/1 (Item 1 from file: 350)**
DIALOG(R)File 350:Derwent WPIX


012063467
WPI Acc No: 1998-480378/199841
****ELISA** **detection** of Anaplasma **species** in rickettsemia - uses specific monoclonal antibodies against Anaplasma major surface protein 5**
Patent Assignee: UNIV WASHINGTON STATE RES FOUND (UNIW ); US SEC OF AGRIC (USDA )
Inventor: DAVIS W C; KNOWLES D P; MCELWAIN T F; MCGUIRE T C; PALMER G H
Number of Countries: 001 Number of Patents: 001
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| US 5798219 | A | 19980825 | US 93156426 | A | 19931123 | 199841 | B |
| | | | US 96730995 | A | 19961016 | | |

Priority Applications (No Type Date): US 93156426 A 19931123; US 96730995 A 19961016
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| US 5798219 | A | | 7 | G01N-033/53 | Cont of application US 93156426 |

Abstract (Basic): US 5798219 A

Detecting Anaplasma specific antibodies in a ruminant animal, which is one of cattle, sheep or goat comprises:

(a) obtaining a serological sample from the ruminant;

(b) conducting a competitive inhibition **enzyme**-**linked** **immunosorbant** assay (**ELISA**) on the sample using native or recombinant Anaplasma major surface protein (msp) 5 and labelled monoclonal antibody (where the label is preferably horseradish peroxidase) ANAF16C1 produced by hybridoma ANAF16C1 deposited as ATCC HB-12440; and

(c) where the presence of competition for binding of the labelled mAb to the native or recombinant Anaplasma msp 5 indicates the presence of Anaplasma specific antibodies to msp 5 in the serological sample.

Also claimed are:

(1) hybridoma cell line ANAF16C1 deposited as ATCC HB-12440; and

(2) mAb ANAF16C1 produced by HB-12440.

USE - The method is used for the **ELISA** detection of anaplasmosis, a vector-borne rickettsial disease of cattle, sheep and goats. It is caused by Anaplasma marginale, A.centrale and A.ovis. Infected animals not showing symptoms (anaemia, weight loss, death) are potential life-long carriers. The test is specific for Anaplasma **species** as protein **detected**, msp-5, is found in all Anaplasma **species**, and the mAb used to detect it is specifically raised against it.

ADVANTAGE - The detection method is capable of accurately detecting the protein due to its specificity. Previous methods e.g. nucleic acid hybridisation, cannot always detect carriers because of cyclic changes in rickettsemia.

Dwg.0/2

Derwent Class: B04; C06; D16; S03
International Patent Class (Main): G01N-033/53

**8/7/2 (Item 2 from file: 350)**
DIALOG(R)File 350:Derwent WPIX


011704026

WPI Acc No: 1998-120936/199811
**Detection of Microsporidia and their infections using recombinant antigens - or antibodies raised against them in standard immunoassays, for analysis of clinical or environmental samples and food**
Patent Assignee: MERLIN DIAGNOSTIKA GMBH (MERL-N)
Inventor: RINDER H
Number of Countries: 067 Number of Patents: 002
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| WO 9803871 | A2 | 19980129 | WO 97EP3665 | A | 19970710 | 199811 | B |
| AU 9737667 | A | 19980210 | AU 9737667 | A | 19970710 | 199827 | |

Priority Applications (No Type Date): DE 1028067 A 19960711
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| WO 9803871 | A2 | G | 8 | G01N-033/569 | |

Designated States (National): AL AU BA BB BG BR CA CN CU CZ EE GE HU IL IS JP KR LC LK LR LT LV MG MK MN MX NO NZ PL RO SG SI SK SL TR TT UA US VN YU ZW
Designated States (Regional): AT BE CH DE DK EA ES FI FR GB GH GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW

| | | | | |
|---|---|---|---|---|
| AU 9737667 | A | | G01N-033/569 | Based on patent WO 9803871 |

Abstract (Basic): WO 9803871 A

In the detection of microsporidia and microsporidial infections, the new feature is that microsporidial antigens (Ag) produced by genetic engineering/recombinant methods are used.

Also claimed are:

(1) preparation of Ag by:

(i) producing cDNA encoding Ag from the mRNA of a microsporidial culture;

(ii) using isolated nucleic acid probes or polymerase chain reaction (PCR) primers derived from this cDNA to recover homologous gene regions from different microsporidia **species**, and

(iii) expressing these gene regions to produce Ag for the second **species**, and

(2) a similar method in which the homologous gene regions are recovered by hybridisation of cDNA from step (i) with genomic DNA or cDNA from the second **species**.

USE - Ag, and antibodies (Ab) raised against them, are used in standard immunoassays, e.g. **enzyme**-**linked** **immunosorbent** assays, particularly to detect microsporidia in clinical samples (human or veterinary), environmental samples or foods.

ADVANTAGE - Microsporidia, normally very difficult to detect, can now be identified without preliminary culture and without using DNA amplification or microscopy.

Pure Ag can be produced for direct serological screening, and assays can be made type or **species** specific, i.e. only samples positive in the type-specific screen need be examined further to **identify** the specific **species** present. The method can be performed in non-specialist laboratories.

Dwg.0/0

Derwent Class: B04; C06; D16; S03
International Patent Class (Main): G01N-033/569

**8/7/3 (Item 3 from file: 350)**
DIALOG(R)File 350:Derwent WPIX


011693835
WPI Acc No: 1998-110745/199810
**Detection of Microsporidia and their infections using recombinant**

**antigens - or antibodies raised against them in standard immunoassays, for analysis of clinical or environmental samples and food**

Patent Assignee: LOESCHER T (LOES-I); RINDER H (RIND-I); ZAHLER M (ZAHL-I)
Inventor: LOESCHER T; RINDER H; ZAHLER M
Number of Countries: 020 Number of Patents: 004
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| WO 9802745 | A1 | 19980122 | WO 97DE1453 | A | 19970710 | 199810 | B |
| DE 19628067 | A1 | 19980129 | DE 1028067 | A | 19960711 | 199810 | |
| DE 19628067 | C2 | 19980430 | DE 1028067 | A | 19960711 | 199821 | |
| EP 888550 | A1 | 19990107 | EP 97933622 | A | 19970710 | 199906 | |
| | | | WO 97DE1453 | A | 19970710 | | |

Priority Applications (No Type Date): DE 1028067 A 19960711
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| WO 9802745 | A1 | G | 11 | G01N-033/569 | |
| Designated States (National): CA US | | | | | |
| Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE | | | | | |
| DE 19628067 | A1 | | 3 | G01N-033/53 | |
| DE 19628067 | C2 | | 4 | G01N-033/53 | |
| EP 888550 | A1 | G | | G01N-033/569 | Based on patent WO 9802745 |
| Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE | | | | | |

Abstract (Basic): WO 9802745 A

In the detection of Microsporidia and microsporidial infections, the new feature is that microsporidial antigens (Ag) produced by genetic engineering/recombinant methods are used.

Also claimed are:

(1) a preparation of Ag by:

(i) producing cDNA encoding Ag from the mRNA of a microsporidial culture;

(ii) using isolated nucleic acid probes or polymerase chain reaction (PCR) primers derived from this cDNA to recover homologous gene regions from different Microsporidia **species**, and

(iii) expressing these gene regions to produce Ag for the second **species**, and

(2) a similar method in which the homologous gene regions are recovered by hybridisation of cDNA from step (i) with genomic DNA or cDNA from the second **species**.

USE - Ag, and antibodies (Ab) raised against them, are used in standard immunoassays, e.g. **enzyme**-**linked** **immunosorbent** assays, particularly to detect microsporidia in clinical samples (human or veterinary), environmental samples or foods.

ADVANTAGE - Microsporidia, normally very difficult to detect, can now be identified without preliminary culture and without using DNA amplification or microscopy.

A wide range of pure Ag can be produced for direct serological screening, and assays can be made type or **species** specific, i.e. only samples positive in the type-specific screen need be examined further to **identify** the specific **species** present. The method can be performed in non-specialist laboratories.

Dwg.0/0

Derwent Class: B04; C07; D16; S03
International Patent Class (Main): G01N-033/53; G01N-033/569
International Patent Class (Additional): C12Q-001/68; G01N-033/543

**8/7/4 (Item 4 from file: 350)**
DIALOG(R)File 350:Derwent WPIX

010090536 **Image available**
WPI Acc No: 1994-358249/199444
**Screening for cold-tolerant strains of Rhizobium - useful in inoculant compsns to improve nodulation, nitrogen fixation and biomass development of legume forage **crops****
Patent Assignee: CANADA MIN AGRIC (MIAC ); RICE W A (RICE-I); CANADA DEPT AGRIC & AGRI-FOOD CANADA (MIAC )
Inventor: OLSEN P E; RICE W A
Number of Countries: 049 Number of Patents: 004
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| WO 9425568 | A1 | 19941110 | WO 94CA243 | A | 19940422 | 199444 | B |
| CA 2097582 | A | 19941024 | CA 2097582 | A | 19930601 | 199504 | |
| AU 9466424 | A | 19941121 | AU 9466424 | A | 19940422 | 199508 | |
| CA 2160780 | C | 20001031 | CA 2160780 | A | 19940422 | 200060 | |
| | | | WO 94CA243 | A | 19940422 | | |

Priority Applications (No Type Date): US 94227880 A 19940415; US 9351426 A 19930423
Cited Patents: 3.Jnl.Ref; FR 2193085; US 4713330
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| WO 9425568 | A1 | E | 42 | C12N-001/36 | |

Designated States (National): AT AU BB BG BR BY CA CH CN CZ DE DK ES FI GB HU JP KP KR KZ LK LU LV MG MN MW NL NO NZ PL PT RO RU SD SE SI SK TT UA US UZ VN
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL OA PT SE

| | | | | |
|---|---|---|---|---|
| CA 2097582 | A | | C12N-001/20 | |
| AU 9466424 | A | | C12N-001/36 | Based on patent WO 9425568 |
| CA 2160780 | C | E | C12N-001/20 | Based on patent WO 9425568 |

Abstract (Basic): WO 9425568 A

Screening a culture collection of 1 test strain of Rhizobium **species** to **detect** and select cold-tolerant strains for a legume **crop** group (LCG) comprises: (a) individually culturing the test Rhizobium strains at < 10 deg. C; (b) selecting those strains which exhibit growth; (c) inoculating test legume seeds of the LCG with the selected strains from step (b); (d) germinating the inoculated seeds and growing test legume **plants** under controlled conditions where temp. is maintained at 9-15 deg. C for sufficient time for nodules to be established on the legume **plants**; (e) selecting those Rhizobium strains from step (d) for which the test **plants** exhibit nodulations; (f) inoculating test legume seedlings of the LCG with the selected strains from step (e) and inoculating control legume seedlings with 1 temperate Rhizobium strain; (g) growing the test and control legume seedlings under controlled conditions in which the roots are maintained at < 10 deg. C while the shoot temp. is <15 deg. C, for sufficient time for control **plants** to establish effective nodules; and (h) selecting, as cold-tolerant Rhizobium strains for the LCG, those Rhizobium strains from step (g) for which the test legume **plants** exhibit improved nodulation over that exhibited by the control legume **plants**. Also claimed are: (1) a biologically pure culture of a cold-tolerant strain of Rhizobium **species**, obtd. by the above screening method; (2) an agricultural inoculant compsn. comprising a carrier medium in admixt. with a cold-tolerant Rhizobium strain as in (1); and (3) a monoclonal antibody (MAb) produced using cold-tolerant Rhizobium meliloti strains screened with alfalfa or sweet clover, as immunogen.

USE - The method is used to screen the following Rhizobium **species** with the following LCG, respectively R. meliloti, R. leguminosarum, R. phaseoli, Bradyrhizobium japonicum and R.trifolii

screened with alfalfa or sweet clover, peas or lentils, beans, **soybeans** and red clover C(claimed). The cold-tolerant Rhizobium spp. are useful in agricultural inoculant compsn. for promoting growth of a LCG (claimed) The identified R.meliloti Strain can also be used as immunogen for prodn. of MAb. Such MAbs are useful in **ELISA** or immunoblot assays for detecting or quantifying cold-tolerant R. meliloti strains in test samples of culture media, nodule tissue, inoculant compsns. and soil (claimed).

ADVANTAGE - Cold-tolerant Rhizobium **species** can nodulate legumes effectively at both cold and moderate soil temps. Nodulation, nitrogen fixation and biomass development of

(Dwg.1/2

Derwent Class: C06; C07; D16; P13
International Patent Class (Main): C12N-001/20; C12N-001/36
International Patent Class (Additional): A01G-007/00; A01N-063/00; C05F-011/08; C07K-016/12; C12P-021/08; C12Q-001/04; C12Q-001/24; G01N-033/569; G01N-033/577; C12N-001/20; C12R-001-41

**8/7/5 (Item 5 from file: 350)**



009713403
WPI Acc No: 1993-406956/199351

**New primers for PCR detection of Listeria - including individual **species**, also new peptide(s) for raising antibodies for immunochemical detection**

Patent Assignee: MERCK PATENT GMBH (MERE )
Inventor: BUBERT A; BURGER C; GOEBEL W; HOFMANN G; KOEHLER S; LINXWEILER W; NEUMANN S; PAWELZIK M; SCHUBERT P
Number of Countries: 010 Number of Patents: 005
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| DE 4318450 | A1 | 19931216 | DE 4318450 | A | 19930603 | 199351 | B |
| EP 576842 | A2 | 19940105 | EP 93108775 | A | 19930601 | 199402 | |
| JP 6233699 | A | 19940823 | JP 93140531 | A | 19930611 | 199438 | |
| EP 576842 | A3 | 19941123 | EP 93108775 | A | 19930601 | 199536 | |
| US 5932415 | A | 19990803 | US 9375248 | A | 19930611 | 199937 | |
| | | | US 95412227 | A | 19950327 | | |
| | | | US 95456670 | A | 19950601 | | |

Priority Applications (No Type Date): DE 4239567 A 19921125; DE 4219111 A 19920611
Cited Patents: -SR.Pub; 4.Jnl.Ref; FR 2616804; AWO 9010870
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| DE 4318450 | A1 | | 19 | C07K-015/28 | |
| EP 576842 | A2 | G | 38 | C12Q-001/68 | |
| Designated States (Regional): BE CH DE FR GB IT LI NL | | | | | |
| JP 6233699 | A | | 20 | C12Q-001/68 | |
| US 5932415 | A | | | C12Q-001/68 | Cont of application US 9375248 |
| | | | | | Div ex application US 95412227 |
| EP 576842 | A3 | | | C07K-015/28 | |

Abstract (Basic): DE 4318450 A

New primers from the iap (invasion-associated protein) gene for amplification of nucleic acid are of formulae (Va)-(Vh) and/or their complementary sequences. X1AATATGAAAAAAGCX2 (Va) X1TAACAGCAATTCAAEX2 (Ve) X1GCTTCGGTCGCGTAX2 (Vb) X1CTGAGGTAGCEAGCX2 (Vf) X1ACAGCTGGATTGCX2 (Vc) X1AGCACTCCAGTTGTTAX2 (Vg) X1ACTGCTAACACAGCTX2 (Vd) X1GCAGTTTCTAAACCTX2 (Vh) X1 and X2 = H or 1-20 nucleotide residues.

USE - The primers are used to detect listeria by gene

amplification and the Ab to detect them by usual immunoassay methods (partic. **ELISA**). By appropriate choice of reagents partic. **species** can be **detected** (esp. L. monocytogenes).

Dwg.1/5

Derwent Class: B04; D16; J04; S03
International Patent Class (Main): C07K-015/28; C12Q-001/68
International Patent Class (Additional): A61K-037/02; C07H-021/04; C07K-007/06; C07K-007/08; C07K-013/00; C07K-015/04; C07K-099-00; C12N-015/06; C12N-015/11; C12N-015/31; C12P-019/34; C12P-021/08; C12Q-001/04; G01N-033/53; G01N-033/569; C12Q-001/68; C12R-001-01; C12R-001-91

**8/7/6 (Item 6 from file: 350)**

DIALOG(R)File 350:Derwent WPIX


007037252
WPI Acc No: 1987-037249/198705

****Identification** of **species** of origin of albumin - by contact with anti-albumin monoclonal antibodies specific to particular **species** and sensing reactivity**

Patent Assignee: SALK INST BIOLOGICAL STUDIES (SALK ); UNIV VIRGINIA PATENTS FOUND (UYVI-N)
Inventor: BENJAMIN D C; HERR J C
Number of Countries: 013 Number of Patents: 005
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| WO 8700532 | A | 19870129 | WO 86US1478 | A | 19860715 | 198705 | B |
| EP 229173 | A | 19870722 | EP 86904678 | A | 19860715 | 198729 | |
| JP 63500614 | W | 19880303 | JP 86504085 | A | 19860715 | 198815 | |
| US 4735898 | A | 19880405 | US 85755564 | A | 19850716 | 198816 | |
| EP 229173 | A4 | 19890315 | EP 86904678 | A | 19860715 | 199348 | |

Priority Applications (No Type Date): US 85755564 A 19850716
Cited Patents: JP 60236069; JP 60258128; No-Citns.
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| WO 8700532 | A | E | 15 | | |
| | Designated States (National): JP | | | | |
| | Designated States (Regional): AT BE CH DE FR GB IT LU NL SE | | | | |
| EP 229173 | A | E | | | |
| | Designated States (Regional): CH DE FR GB IT LI | | | | |
| US 4735898 | A | | 4 | | |

Abstract (Basic): WO 8700532 A

A method of **identification** of **species** of origin of a blood, bloodstain or tissue sample comprises contacting albumin from the sample with anti-albumin monoclonal antibodies specific to a particular **species** and sensing reactivity of the monoclonal antibody with the albumin from the sample.

The monoclonal antibody is produced by fusing spleen cells from Balb/c mice, injected with purified human serum albumin, to a murine myeloma. The monoclonal antibody is selected by screening resulting hybridomas on human serum albumin coated plates and is subloned and stabilised by several months of culture. The monoclonal antibody is isotyped as an IgG(K).

USE/ADVANTAGE - The method is used particularly to identify human albumin. The monoclonal antibody to human albumin does not cross react with albumin samples obtd. from orangutan, gorilla, rat, bovine, goat, sheep, pig, deer, rabbit, dog or cat. The monoclonal antibody can be used in an **ELISA** or other type of assay kit for determination of the **species** of origin by the forensic serologist.

0/0
Abstract (Equivalent): US 4735898 A
A hybride cell line ATCC8,860 secreting monoclonal antibodies specifically reactive with human serum albumin, esp. a monoclonal antibody ATCC HB 8,860. The origin of blood (stain) or tissue sample is identified by contacting a sample, esp. pn a plate substrate, contg. albumin with anti-albumin monoclonal antibodied specific to a particular **species** and sensing the reactivity of the antibodies with the albumin of the sample.
USE - As valuable tool for foresenic analysis. (4pp
Derwent Class: B04; D16; J04; S03
International Patent Class (Additional): C07K-015/00; C12N-005/00; C12N-015/00; C12P-021/00; C12Q-001/56; G01N-033/53

**8/7/7 (Item 7 from file: 350)**
DIALOG(R)File 350:Derwent WPIX


004615811
WPI Acc No: 1986-119155/198618
**Monoclonal antibody specific for antigen or **species** of candida - useful for treating candida infections and when labelled in rapid and specific determinations of Candida in body fluids, food etc**
Patent Assignee: TECHN LICENCE CO LT (TECH-N); WRIGHT B W (WRIG-I)
Inventor: COX A J; MASON R J; NOYES A M; WIDDOWS D
Number of Countries: 014 Number of Patents: 002
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| WO 8602365 | A | 19860424 | WO 85GB476 | A | 19851016 | 198618 | B |
| EP 200745 | A | 19861112 | EP 85905090 | A | 19851016 | 198646 | |

Priority Applications (No Type Date): GB 8426459 A 19841019
Cited Patents: 1.Jnl.Ref; FR 2543969
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| WO 8602365 | A | E | 35 | | |
| Designated States (National): JP US | | | | | |
| Designated States (Regional): AT BE CH DE FR GB IT LU NL SE | | | | | |
| EP 200745 | A | E | | | |
| Designated States (Regional): AT BE CH DE FR GB IR LI LU NL SE | | | | | |

Abstract (Basic): WO 8602365 A
(1) Monoclonal antibody specific for an antigen or **species** of Candida is new. (2) Monoclonal antibody broadly cross-reactive with an antigen of all **species** of the genus Candida is new. (3) Labelled monoclonal antibody comprising a monoclonal antibody as defined in paragraphs 1 or 2 and an approp. label is new.
Pref. monoclonal antibody is esp. specific to the antigen(s) of C. albicans I, II, III or IV or its surface antigen. It is also specific to the antigen(s) of C. guilliermondii, humicola, krusei, lambdica, lipolytica, parapsilosis, pseudotropicalis, rugosa, stellatoids, tropicalis or zeylanoides. It may be labelled wtih with a radioactive isotope, enzyme, fluorescent cpd., bio- or chemi-luminescent cpd. or ferromagnetic atom or particle. The label may be an enzyme capable of conjugating with the antibody and of being used in an **ELISA** procedure, e.g. it is an alkaline phosphatase, glucose oxidase, galactosidase or peroxidase. Approp. assays are used for the other labels.
USE/ADVANTAGE - Monoclonal antibodies are used for the rapid **detection** of antigens or **species** of Candida in samples such as foods, urine, blood, water and milk. Candida **species** esp. C. albicans, are found during cancer or antibiotic therapies, in venereal

diseases, etc. and they are specifically determined in immunoassays with the labelled antibodies. The monoclonal antibodies may also be used for treating Candida infections in humans or animals.

Derwent Class: B04; C03; D13; D15; D16; S03
International Patent Class (Additional): A61K-039/39; C07K-015/00; C12N-015/00; C12P-021/00; C12R-001/91; G01N-033/57
?

**14/7/1 (Item 1 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)


10645860 BIOSIS NO.: 199699267005
***Enzyme*-*linked* *immunosorbent* assay for *detection* of zearalenone in *corn*, *wheat*, and pig feed: Collaborative study.**
AUTHOR: Bennett Glenn A(a); Nelsen Terry C(a); Miller Brinton M
AUTHOR ADDRESS: (a)U. S. Dep. Agric., Agric. Res. Serv., Natl. Cent. Agric. Utilization Res., Peoria, IL 61604**USA
JOURNAL: Journal of AOAC International 77 (6):p1500-1509 1994
ISSN: 1060-3271
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: A direct competitive enzyme-linked immunosorbent assay (ELISA) screening method for zearalenone in corn, wheat, and feed at 500 ng/g was evaluated by 23 collaborators (22 laboratories) in an international collaborative study. Eighteen samples of spiked or naturally contaminated corn, wheat, and pig feed were prepared by the sponsoring laboratory and sent for testing with complete test kits to participating collaborators in Canada, Italy, Sweden, The Netherlands, and the United States. Test samples were extracted with methanol-water solution (70 + 30) by shaking on a wrist-action shaker for 3 min. A portion of the extract was mixed with an equal volume of zearalenone-enzyme conjugate, and the mixture was incubated with zearalenone-specific monoclonal antibodies coated onto microtiter wells. All test samples were assayed in duplicate. One of 52 (2%) blanks was reported positive. Thirty-nine of the 52 (75%) samples that were spiked at 500 ng/g were reported as positive. Forty-nine of the 51 (96%) samples with concentrations at or above 1 000 ng/g were reported as positive. The overall incidence of false negatives was 6.0% and the incidence of false positives was 22.7% by the ELISA method. Only one (3.4%) false negative was reported for samples containing gtoreq 800 ng/g. In the spectrophotometric method, 8 collaborators determined approximate levels of zearalenone in test samples from standard curves constructed from spiked extracts (0-3000 ng/g of each commodity tested). This method gave and overall incidence of false negatives of 5.7% and false positives of 17.8%. Average relative standard deviations, RSD-r (repeatability) and RSD-R (reproducibility), were 11.6 and 25.1% for spiked samples and 11.7 and 33.1 % for naturally contaminated samples, respectively. Standard curves were constructed with each set of samples assayed. Comparison of absorbance values from these standard curves indicate the performance of reagents and antibody used in the assay. The ELISA method has been adopted first action by AOAC INTERNATIONAL as a screening method for zearalenone at gtoreq 800 ng/g in corn, wheat, and pig feed.

**14/7/2 (Item 2 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)


10633258 BIOSIS NO.: 199699254403
**Determination of captan in water, peaches, and apple juice by a magnetic particle-based immunoassay.**
AUTHOR: Itak Jeanne A(a); Selisker Michele Y(a); Herzog David P(a); Fleeker James R; Bogus R; Mumma Ralph O
AUTHOR ADDRESS: (a)Ohmicron Corp., 375 Pheasant Run, Newtown, PA 18940**USA
JOURNAL: Journal of AOAC International 77 (1):p86-91 1994
ISSN: 1060-3271
DOCUMENT TYPE: Article
RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: A magnetic particle-based enzyme-linked immunosorbent assay (ELISA) was used to determine captan residues in water, peaches, and apple juice. Precision studies of captan-spiked water samples showed coefficients of variation (CVs) of 24% at 0.1 ppm and 15% at 2.0 ppm. Average recoveries from water were 110-118%, with an estimated sensitivity of 0.01 ppm for captan. Low cross-reactivity was seen with the related phthalimide fungicides captafol and folpet. A least-detectable dose (LDD) of 1 ppm was estimated for captafol in the immunoassay; an LDD of 8.6 ppm was estimated for folpet. Apple juice samples were analyzed by a 3-step procedure: the sample was concentrated on a C,8 bonded silica solid-phase column, the eluate was diluted in buffer, and the sample was assayed by *ELISA*. The *detection* limit in *apple* juice was estimated to be 0.1 ppm on the basis of the detection limit observed in water and the required calculation factors; the average recovery was 11 5%. Acetone extraction, C,8 bonded silica solid-phase extraction column, and the immunoassay were used consecutively to analyze peach samples. The detection limit in peaches was estimated to be 0.15 ppm on the basis of the detection limit observed in water and the required calculation factors. Captan residues were found in all but one of the peach samples and ranged from 0.15 to 1.12 ppm (mu-g/g). Recovery of added captan from peaches averaged 98% for both spike levels tested. Results of analysis of captan in peaches by immunoassay and gas chromatography with electron capture detection (GC/ECD) were compared. GC/ECD gave an average recovery of 75%; immunoassay gave an average recovery of 112%.

**14/7/3 (Item 3 from file: 5)**



10464962 BIOSIS NO.: 199699086107

**Supplemental studies on the registered method L36.00-11: *Detection* of raw fruit proteins *corn* and rice in beer by *enzyme*-*linked*-*immunosorbent* assay (ELISA).**

AUTHOR: Guenther Herbert O(a); Baudner Siegfried
AUTHOR ADDRESS: (a)Labor Dr. Ehrenstorfer, Augsburg**Germany
JOURNAL: Lebensmittelchemie 50 (2):p33-34 1996
ISSN: 0937-1478
DOCUMENT TYPE: Article
RECORD TYPE: Citation
LANGUAGE: German; Non-English

**14/7/4 (Item 4 from file: 5)**



09173835 BIOSIS NO.: 199497182205

**Comparative assessment of fumonisin in grain-based *foods* by ELISA, GC-MS, and HPLC.**

AUTHOR: Pestka James J(a); Azcona-Olivera Juan I; Plattner Ronald D; Minervini Fiorenza; Doko M Bruno; Visconti Angelo
AUTHOR ADDRESS: (a)Dep. Food Sci. and Hum. Nutr., Mich. State Univ., East Lansing, MI 48824-1224**USA
JOURNAL: Journal of Food Protection 57 (2):p169-172 1994
ISSN: 0362-028X
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Seventy-one (71) *food* samples were analyzed for the mycotoxin fumonisin by a monoclonal antibody based competitive *enzyme*-*linked* *immunosorbent* assay (*ELISA*). Fumonisins were *detected* primarily in *corn*-based products with 7/12, 2/2 and 1/3 and 1/7 yellow cornmeal, blue cornmeal, corn muffin mix, and mixed grain cereal samples yielding positive results, respectively. When the positive samples and randomly selected negative samples were assessed by other methods, correlations (r values) between ELISA and gas chromatography-mass spectrometry (GC-MS), ELISA and high-pressure liquid chromatography (HPLC) and GC-MS and HPLC were 0.478 (p lt 0.05), 0.512 (p lt 0.05), and 0.946 (p lt 0.01), respectively. The results suggested that although the immunoassay could be used for screening of fumonisin in *food* samples, higher estimates were attained by ELISA than by the other two methods particularly in the more contaminated samples. These observations may result from differences in sample preparation among the methods or because of the presence of structurally related compounds in extracts that are detectable by ELISA but not the other two methods.

**14/7/5 (Item 5 from file: 5)**



08959477 BIOSIS NO.: 199396110978

**The effect of high M-r glutenin subunit composition on the results from tests used to predict durum wheat quality.**

AUTHOR: Kovacs M I P(a); Howes N K; Leisle D; Skerritt J H
AUTHOR ADDRESS: (a)Agric. Can., Res. Station, 195 Dafoe Road, Winnipeg, Manitoba, Can. R3T 2M9

JOURNAL: Journal of Cereal Science 18 (1):p43-51 1993
ISSN: 0733-5210
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: The relationships between protein content, sodium dodecyl sulphate sedimentation volume (SV), cooked gluten viscoelasticity (CGV), mixograph mixing development time (MDT) and pasta disc viscoelasticity (PDV) were investigated, and the effects of high M-r glutenin subunit composition upon these quality test parameters determined. Durum wheat wholemeals or semolinas from 143 F2-derived F4 families from crosses between the cultivars Vic and Berillo were tested for protein content, SV, CGV, MDT, PDV and high M-r glutenin subunits. To *identify* specific *wheat* endosperm proteins SDS-PAGE and *enzyme*-*linked* *immunosorbent* assay (ELISA) using MAb clones P24B (specific for gamma-gliadin 45) and clone 304/13 (specific for high M-r glutenin subunit-B1) were used. Vic and Berillo both gave high CGV and PDV values. Vic also had high SV and MDT values, whilst those for Berillo were relatively low. Lines having high M-r glutenin subunits 6 + 8 gave significantly higher SV values than those having high M-r glutenin subunits 20. The effects of high M-r glutenin subunit composition on CGV was inconsistent between years. The results indicate that, while both SV and CGV predict gluten strength, they are independent quality characteristics. Furthermore, MAb clone 304/13 could be used to identify breeders' lines containing high M-r glutenin subunits 6 + 8 or 20.

**14/7/6 (Item 6 from file: 5)**



07277251 BIOSIS NO.: 000090057138

**COMPARISON OF TWO IMMUNOCHEMICAL METHODS WITH THIN-LAYER CHROMATOGRAPHIC**

**METHODS FOR DETERMINATION OF AFLATOXINS**
AUTHOR: TRUCKSESS M W; YOUNG K; DONAHUE K F; MORRIS D K; LEWIS E
AUTHOR ADDRESS: FOOD DRUG ADM., DIV. CONTAMINANTS CHEM., WASHINGTON, DC 20204.
JOURNAL: J ASSOC OFF ANAL CHEM 73 (3). 1990. 425-428. 1990
FULL JOURNAL NAME: Journal of the Association of Official Analytical Chemists
CODEN: JANCA
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: Three different methods were compared for the determination of total flatoxins in corn and peanuts naturally contaminated with aflatoxins and in corn, peanuts, cottonseed, peanut butter, and poultry feed spiked with aflatoxins B1, B2, and G1. The 3 methods were an enzyme-linked immunosorbent assay (ELISA) screening test; a monoclonal antibody-affinity column-solid-phase separation method; and the AOAC official thin-layer chromatography (TLC) methods for all except poultry feed, for which Shannon's TLC method for mixed feed was used. The ELISA test is designed to provide only positive results for total aflatoxins at .gtoreq. 20 ng/g or negative results at < 20 ng/g. The affinity column separation is coupled with either bromination solution fluorometry to estimate total aflatoxins or liquid chromatography (LC) to quantitate individual aflatoxins. Fluorodensitometry was used to determine aflatoxins in commodities analyzed by the TLC methods. The LC and TLC results were in good agreement for all the analyses. The results for the affinity column using bromination solution fluorometry were similar except those for cottonseed, which were about 60% higher. The *ELISA* screening method correctly *identified* naturally contaminated *corn* and peanut positive samples. No false positives were found for controls. The correct reponse for spiked corn, raw peanuts, peanut butter, and cottonseed at .gtoreq. 20 ng aflatoxins/g was about 90%. The correct response for spiked poultry feed at .gtoreq. 20 ng aflatoxins/g was about 50%.

**14/7/7 (Item 7 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)


06165330 BIOSIS NO.: 000085128482
**PRODUCTION OF SENSITIVE MONOCLONAL ANTIBODIES TO AFLATOXIN B-1 AND AFLATOXIN M-1 AND THEIR APPLICATION TO ELISA OF NATURALLY CONTAMINATED *FOODS***
AUTHOR: DIXON-HOLLAND D E; PESTKA J J; BIDIGARE B A; CASALE W L; WARNER R L ; RAM B P; HART L P
AUTHOR ADDRESS: DEP. FOOD SCI. HUMAN NUTRITION, MICH. STATE UNIV., EAST LANSING, MICH. 48824.
JOURNAL: J FOOD PROT 51 (3). 1988. 201-204. 1988
FULL JOURNAL NAME: Journal of Food Protection
CODEN: JFPRD
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: Two new hybridoma cell lines capable of secreting sensitive monoclonal antibodies for aflatoxin B1 (AFB1) and aflatoxin M1 (AFM1), were produced by fusing NS-1 myeloma cells with spleen cells of BALB/c female mice immunized with AFB1- and AFM1-carboxymethyloxime bovine serum albumin conjugates, respectively. Detection limits for these antibodies in the direct enzyme-linked immunosorbent assay (ELISA) were 0.5 ng/ml for AFB1 and 0.25 ng/ml for AFM1. Concentrations of AFB1 analogs (ng/ml) required to inhibit 50% binding of AFB1-perioxidase conjugate to AFB1 monoclonal antibody solid phase in direct ELISA were: AFB1, 2.6; AFB2,

13; AFG1, 8; AFB2, 15; AFM1, 23. Analog concentrations (ng/ml) required to inhibit 50% binding of AFB1-perioxidase conjugate to AFM1 monoclonal antibody solid phase were: AFM1, 0.8; AFM2, 700; AFB1, 0.5; AFB2, 35; AFB2a, > 10,000; AFG1, 12; AFG2a, 12; AFP1, 16; and AFQ1, 9.2. These new monoclonal antibodies ere applicable to both the *ELISA* *detection* AFB1 in *corn*, cottonseed, cottonseed meal, and mixed feed following a simple extraction in 55% methanol as well as the direct detection of AFM1 in milk.

**14/7/8 (Item 1 from file: 10)**
DIALOG(R)File 10:AGRICOLA


3535681 20533289 Holding Library: AGL
**Identification of Xanthomonas fragariae field isolates by rep-PCR genomic fingerprinting**
Opgenorth, D.C. Smart, C.D.; Louws, F.J.; De Bruijn, F.J.; Kirkpatrick, B.C.
California Department of *Food* and Agriculture, Sacramento, CA.
[St. Paul, Minn., American Phytopathological Society]
Plant disease. Aug 1996. v. 80 (8) p. 868-873.
ISSN: 0191-2917 CODEN: PLDIDE
DNAL CALL NO: 1.9 P69P
Language: English
Includes references
Place of Publication: Minnesota
Subfile: IND; OTHER US (NOT EXP STN, EXT, USDA; SINCE 12/76);
Document Type: Article
Xanthomonas fragariae, the causal organism of angular leaf spot on cultivated strawberry (Fragaria X ananassa), is an economically important pathogen of nursery stock in California. The ability to reliably detect this pathogen in a timely manner is crucial for the production and timely distribution of disease-free nursery stock. Pathogenicity testing for this disease requires excessive time, and the bacterium grows slowly on standard culture medium. A medium, similar to that used for culturing Xylella fastidiosa, allowed more consistent recovery of X. fragariae from infected strawberry plants. Using the polymerase chain reaction (PCR) with primers that anneal to dispersed repetitive bacterial sequences (rep-PCR), we generated genomic fingerprints of reference strains of X. fragariae (ATCC 33239 and 33240). These fingerprints were used, in turn, to accurately identify X fragariae field isolates collected over the last 5 years from nurseries in California. The rep-PCR fingerprint results agree with pathogenicity test results, require much less time than the pathogenicity test, and have greater specificity than indirect *enzyme*-*linked* *immunosorbent* assay for *identifying* X. fragariae from field *plants*. For these reasons, rep-PCR is the fastest and most accurate method for the current identification of X. fragariae and it constitutes a useful tool for the production of disease-free strawberry nursery stocks.

**14/7/9 (Item 2 from file: 10)**
DIALOG(R)File 10:AGRICOLA


3489835 20496528 Holding Library: AGL
**Comparison of thin-layer chromatography and competitive immunoassay methods for detecting fumonisin on maize**
Shelby, R.A. Rottinghaus, G.E.; Minor, H.C.
Auburn University, Auburn, AL.
Washington, D.C. : American Chemical Society.
Journal of agricultural and food chemistry. Sept 1994. v. 42 (9) p. 2064-2067.

ISSN: 0021-8561 CODEN: JAFCAU
DNAL CALL NO: 381 J8223
Language: English
Includes references
Place of Publication: District of Columbia
Subfile: IND; OTHER US (NOT EXP STN, EXT, USDA; SINCE 12/76);
Document Type: Article

The fumonisin mycotoxins are secondary metabolites of Fusarium moniliforme, which are common worldwide in maize. Thin-layer chromatography (TLC) and competitive indirect immunoassay (CI-*ELISA* ) methods were compared for *detection* of fumonisin B1 in *maize*. Corn from the 1991 Missouri maize variety trials (322 samples) was collected, milled, subsampled, and analyzed independently by two laboratories using different screening methods. Fifty-two percent of the samples tested negative for fumonisin B1 at 1 ppm by both methods. By TLC, an additional 14% of the samples had less than 1 ppm of fumonisin B1 and more than 1 ppm by CI-ELISA. TLC found 34% of the samples were from 1 to 10 ppm and only 1% of the samples were above 10 ppm of fumonisin B1. CI-ELISA found 28% of the samples contained fumonisin levels between 1 and 10 ppm and 20% had greater than 10 ppm of fumonisin. In the remaining samples, CI-ELISA consistently reported higher fumonisin levels than TLC (160/322), while TLC was higher in only 10 of 322 samples. The discrepancy may be due to fumonisin B1 alone being detected by TLC, while CI-ELISA measures total fumonisins. Both methods are well suited for rapid screening of maize samples for fumonisin contamination.

**14/7/10 (Item 3 from file: 10)**



3273636 93022167 Holding Library: AGL

**Immunoassay for detection of zearalenone in agricultural commodities**

Bennett, G.A.
ARS, USDA, Northern Regional Research Center, Peoria, IL

Washington, D.C. : The Society.
ACS Symposium series - American Chemical Society. 1991. (451) p. 170-175.
ISSN: 0097-6156 CODEN: ACSMC
DNAL CALL NO: QD1.A45
Language: English
In the series analytic: Immunoassays for trace chemical analysis: monitoring toxic chemicals in humans, *food*, and the environment / edited by M. Vanderlaan, L.H. Stanker, B.E. Watkins, and D.W. Roberts.
Includes references.
Subfile: OTHER US (NOT EXP STN, EXT, USDA; SINCE 12/76);
Document Type: Article

A direct competitive *enzyme*-*linked* *immunosorbent* assay for the *detection* of zearalenone in *corn*, *wheat*, and feed has been evaluated by 23 collaborators in an international collaborative study. Both visual and spectrophotometric determinations of zearalenone were done on blind duplicates of spiked and naturally contaminated samples of each commodity. Frequency of false negatives was 25% at the target level of 500 ng zearalenone/g commodity, but was only 3.4% at 800 ng zearalenone. No noticeable matrix effect was observed for the samples tested. Coefficients of variation for repeatability were 11.6% and 11.7% for spiked and naturally contaminated samples, respectively. Coefficients of reproducibility were 25.1% and 33.1% for spiked and naturally contaminated samples, respectively. This study demonstrates the reliability of the immunoassay procedure as a screening method for zearalenone at >800 ng/g in corn, wheat, and feed.

**14/7/11 (Item 4 from file: 10)**
DIALOG(R)File 10:AGRICOLA


2309443 84050560 Holding Library: AGL
**Indirect *enzyme*-*linked* *immunosorbent* assay for *detection* of aflatoxin B1 in *corn* and peanut butter**
Fan, T.S.L. Chu, F.S.
Ames, Iowa : , International Association of Milk, Food, and Environmental Sanitarians.
Journal of food protection. v. 47 (4) , Apr 1984. p. 263-266.
ISSN: 0362-028X
NAL: 44.8 J824
Language: English
Includes references.
Subfile: OTHER US (NOT EXP STN, EXT, USDA; SINCE 12/76);
Document Type: ARTICLE

**14/7/12 (Item 1 from file: 34)**
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci


05855153 Genuine Article#: XB283 Number of References: 91
**Title: Antibodies and *food* productions: Possible applications in *food* quality and safety control**
Author(s): Salvi R (REPRINT) ; Merendino N; Tomassi G
Corporate Source: UNIV TUSCIA,LAB IMMUNOL & NUTR, FAC SCI MFN, VIA LELLIS/I-01100 VITERBO//ITALY/ (REPRINT)
Journal: INDUSTRIE ALIMENTARI, 1997, V36, N357 (MAR), P327-335
ISSN: 0019-901X Publication date: 19970300
Publisher: CHIRIOTTI EDITORI, PO BOX 66, 10064 PINEROLO, ITALY
Language: Italian Document Type: ARTICLE
Abstract: In the *food* industry, the control and improvement of quality and safety of *food* products before their entrance in the market is mandatory. This process involves the necessity of monitoring different compounds, among which factors of plant and animal diseases, analysis of *food* contamination for toxins, pesticides and drug residues, natural toxicants, allergenes, pathogenic microorganisms. Therefore is Very important to set-up methodologies and techniques able to give qualitative and quantitative answers in a short time.

Immunodiagnostic tests, based on antibodies properties, are optimal candidates for this task, because their are economic, rapid, easy to perform, very sensitive and reliable, and because they can be carried out directly on the field.

In this review, examples of application of immunological tests to *food* production are reported, such as those for the presence of bacteria, Virus and molds in *food* crops and in animal production, and those for the presence of microbial toxins, algal toxins, pathogenic microorganisms, and pesticides or drug residues.

The development of tests based on the employment of specific antibodies, such as immunobiosensors, remains a promising area of research for the application to the *food* industry.

**14/7/13 (Item 2 from file: 34)**
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci


04766029 Genuine Article#: UF890 Number of References: 72

**Title: PCR-BASED DNA ANALYSIS FOR THE IDENTIFICATION AND CHARACTERIZATION OF *FOOD* COMPONENTS**
Author(s): MEYER R; CANDRIAN U
Corporate Source: UNIV BERN,INST BIOCHEM,FOOD CHEM LAB,FREIESTR 3/CH-3012 BERN//SWITZERLAND/
Journal: FOOD SCIENCE AND TECHNOLOGY-LEBENSMITTEL-WISSENSCHAFT & TECHNOLOGIE, 1996, V29, N1-2, P1-9
ISSN: 0023-6438
Language: ENGLISH Document Type: REVIEW
Abstract: Analysis of specific nucleic acids in *food* allows control laboratories to determine the presence or absence of certain ingredients in complex products or the identification of specific characteristics of single *food* components. These analyses are based on nucleic acids probes, including the polymerase chain reaction (PCR), which made the detection of minute amounts of degraded nucleic acids and their sequence determination possible. In this review, we describe the approaches that have been taken to detect low levels of contaminants such as wheat in dietary *food* for coeliac patients and pork meat or fat in sausages. In addition, these methods may also be used for the identification of meat or fish species and the recognition of genetically altered *foods*, including the FlavrSavr(TM) tomato These examples indicate that a comprehensive description of *food* products based on the analysis of nucleic acids will be feasible. (C) 1996 Academic Press Limited.

**14/7/14 (Item 3 from file: 34)**
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci


01291754 Genuine Article#: GL857 Number of References: 65
**Title: POLYCLONAL IGY ANTIBODIES FROM CHICKEN EGG-YOLK - AN ALTERNATIVE TO THE PRODUCTION OF MAMMALIAN IGG TYPE ANTIBODIES IN RABBITS**
Author(s): SCHADE R; PFISTER C; HALATSCH R; HENKLEIN P
Corporate Source: HUMBOLDT UNIV,INST PHARMACOL,PF 140/DDR-1040 BERLIN//GER DEM REP/; HUMBOLDT UNIV,DEPT MED CHARITE,INST ANAT/DDR-1040 BERLIN//GER DEM REP/
Journal: ATLA-ALTERNATIVES TO LABORATORY ANIMALS, 1991, V19, N4, P403-419
Language: ENGLISH Document Type: ARTICLE
Abstract: Based on a physiological process, antibodies are concentrated in the yolk of chicken eggs, and can be used as a convenient source of polyclonal antibodies. Hens were immunised with a BSA-cholecystokinin octapeptide conjugate (CCK-8) to obtain antibodies against CCK-8. A simple method is described for extracting the antibodies from egg yolk, which can then successfully be used in immunocytochemical studies. Using these antibodies, CCK-like immunoreactivity was found in brain sections of rats, both by fluorescein isothiocyanate and peroxidase staining. The specificities of these antibodies were different from those of rabbit antibodies against the C-terminal part of CCK-8.

The applicability of egg yolk antibodies in immunological investigations is reviewed and discussed in detail. The properties of avian egg yolk antibodies are compared with those of polyclonal antibodies obtained from mammals (e.g. the rabbit). The more general use of avian antibodies is emphasised as a real alternative, taking into consideration the reduction in animal suffering involved in comparison with the classical immunisation techniques used on rabbits.

**14/7/15 (Item 4 from file: 34)**
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

01099802 Genuine Article#: FW074 Number of References: 271
**Title: METHODS FOR DETECTING MICROBIAL PATHOGENS IN *FOOD* AND WATER**
Author(s): KASPAR CW; TARTERA C
Corporate Source: SAN LABS,405 8TH AVE SE/CEDAR RAPIDS//IA/52401; UNIV MARYLAND,DEPT MICROBIOL/COLLEGE PK//MD/20742
Journal: METHODS IN MICROBIOLOGY, 1990, V22, P497-531
Language: ENGLISH Document Type: REVIEW

**14/7/16 (Item 1 from file: 50)**
DIALOG(R)File 50:CAB Abstracts


03593357 CAB Accession Number: 981006245
**Detection of soybean dwarf luteovirus (SbDV) in some *food* legume crops by using different ELISA variants.**
Nassan, H. M.; Makkouk, K. M.; Kassem, A. A. H.
Arab Journal of Plant Protection vol. 15 (2): p.74-79
Publication Year: 1997
ISSN: 0255-983X --
Language: Arabic Summary Language: english
Document Type: Journal article
*Soybean* dwarf luteovirus (SbDV) was *detected* by DAS-*ELISA* and TAS-*ELISA* in lentils, faba beans and peas by using different polyclonal and monoclonal antibodies. The highest concentration of the virus occurred in faba bean and lentil stems 10 days after inoculation. When different ELISA techniques were compared, TAS-ELISA was the most sensitive. To improve detection efficiency, extraction buffers were compared. The TAS-ELISA procedure was shortened to 6 hours without significant loss in sensitivity. The virus was detected in peas when extracted in 0.2 M phosphate buffer. 11 ref.

**14/7/17 (Item 2 from file: 50)**
DIALOG(R)File 50:CAB Abstracts


02823218 CAB Accession Number: 941402234
**Detection of wheat proteins in feed.**
Timmermans, M.; Kupers, L.; Teuchy, H.
Limburgs Universitair Centrum, Universitaire Campus, 3590 Diepenbeek, Belgium.
Conference Title: Food safety and quality assurance: applications of immunoassay systems: proceedings conference, Bowness-on-Windermere, Cumbria, 19-22 March 1991
p.69-70
Publication Year: 1992
Editors: Morgan, M. R. A.; Smith, C. J.; Williams, P. A.
Publisher: Elsevier Science Publishers Ltd. -- Barking, UK
ISBN: 1-85166-747-4
Language: English
Document Type: Conference paper
The effects of feeding wheat proteins, on the immune system of calves was studied. 3 recently weaned calves were fed on calf milk replacer with wheat isolate (Kalpro S, Amylum; 30% of total protein). 6 weeks after the start of the study, all calves developed antibodies against wheat proteins. Major antigens recognised by the calf sera were identified by a blotting technique. Results showed that most immunoglobulins from the orally sensitized calves were directed against gliadin and lectin. There was no difference in the recognition pattern of the antisera from all 3 calves. Calf antisera was then used in a competitive *ELISA* to *detect* the presence of *wheat* proteins in different mixtures and ultimately in feeds.

**14/7/18 (Item 1 from file: 76)**
DIALOG(R)File 76:Life Sciences Collection


01039995 1534476
***Enzyme*-*linked* *immunosorbent* assay for *detection* of mold in *tomato* puree.**
Lin, H.H.; Lister, R.M.; Cousin, M.A.
Food Sci. Dep., Purdue Univ., West Lafayette, IN 47907, USA
J. FOOD SCI. vol. 51, no. 1, pp. 180-183 (1986.)
DOCUMENT TYPE: Journal article LANGUAGE: ENGLISH
SUBFILE: Microbiology Abstracts Section C: Algology, Mycology and Protozoology; Microbiology Abstracts Section A: Industrial and Applied Microbiology

A double-sandwich enzyme-linked immunosorbent assay (ELISA) was developed for the detection o molds (Alternaria alternata, Geotrichum candidum and Rhizopus stolonifer ) in tomato puree by the use of antisera raised in rabbits injected with homogenates of the lyophilized boiled molds. Cross reactivity among the three species was less than 10%. Detection limits were approximately 1 mu g dried mold/g of sample, a sensitivity greater than that of most chemical methods. Positive relationship between ELISA readings and the amounts of mold added to puree were observed, while background ELISA values for puree controls were negligible.

**14/7/19 (Item 2 from file: 76)**
DIALOG(R)File 76:Life Sciences Collection


00868453 1018960
**Enzyme-linked immunosorbent assay of ochratoxin A in wheat.**
Lee, S.C.; Chu, F.S.
Univ. Wisconsin, Dep. Food. Sci., Madison, WI 53706, USA
J. ASSOC. OFF. ANAL. CHEM. vol. 67, no. 1, pp. 45-49 (1984.)
DOCUMENT TYPE: Journal article LANGUAGE: ENGLISH
SUBFILE: Toxicology Abstracts; Microbiology Abstracts Section C: Algology, Mycology and Protozoology; Microbiology Abstracts Section A: Industrial and Applied Microbiology; Immunology Abstracts

An enzyme-linked immunosorbent assay (ELISA) was developed for the quantitation of ochratoxin A amended to wheat. Ochratoxin A conjugated to horseradish peroxidase (HRP) was used as an enzyme marker in the assay. At toxin levels below 30 ppb, a cleanup treatment was necessary for ELISA. Among 3 cleanup methods tested (solvent partition, Sep-Pak cartridge treatment, solvent partition and cartridge treatment), reverse phase cartridge treatment was the most simple and effective. *ELISA* allowed minimal *detection* of the toxin in *wheat* at the 1-2 ppb level after cleanup. Recoveries of toxin added to wheat samples in the 1.0-30 ppb range were 85-90% with standard deviations of 10-15%.

**14/7/20 (Item 1 from file: 94)**
DIALOG(R)File 94:JICST-EPlus


03211377 JICST ACCESSION NUMBER: 97A0521037 FILE SEGMENT: JICST-E
**Detection of apple chlorotic leafspot virus in apple leaves by Enzyme-Linked Immunosorbent Assay(ELISA).**
TAKAHASHI T (1); OHARA T (1); TANAKA H (1); KURIHARA K (1); SHIMIZU K (1)

(1) Yokohama Plant Protection Station
Shokubutsu Boekijo Chosa Kenkyu Hokoku(Research Bulletin of the Plant Protection Service Japan), 1996, NO.32, PAGE.103-109, FIG.3, TBL.2, REF.13
JOURNAL NUMBER: S0120AAL ISSN NO: 0387-0707 CODEN: SBCKA
UNIVERSAL DECIMAL CLASSIFICATION: 634.1/.8 632.38
LANGUAGE: English COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: The standard ELISA(S-ELISA) and the modified *ELISA*(M-*ELISA*) were studied to *detect* *apple* chlorotic leafspot virus (ACLSV) in the different maturities of apple leaves. The anti-serum against ACLSV was obtained after several times of injection with the purified ACLSV into a rabbit. The optimal concentration for coating IgG and alkaline phosphatase conjugate were 4.15 .MU.g/ml and 1:100 dilution, respectively. In S-ELISA, 2.5% nicotine solution containing 2.0% polyvinylpyrrolidone and in M-ELISA, phosphate buffered saline containing 0.05% Tween 20(PBS-T), 2.0% polyvinylpyrrolidone and 0.05% thioglycolic acid were suitable for grinding of sample leaves. Eleven samples in 12 young leaf samples showed positive reactions for the young leaves in both S- and M-ELISA. M-ELISA was superior to S-ELISA in apple leaves. Positive reactions were not appeared entirely on the mature leaves sampled in July in both S- and M-ELISA. (author abst.)

**14/7/21 (Item 2 from file: 94)**
DIALOG(R)File 94:JICST-EPlus


02246484 JICST ACCESSION NUMBER: 95A0018556 FILE SEGMENT: JICST-E
***Detection* of DNA Damage in *Plants* Caused by UV Irradiation with *ELISA* Method.**
NAKAJIMA NOBUMI (1); KONDO NORIAKI (1); SHIMIZU HIDEYUKI (1); TAKAHASHI SHIN'YA (2)
(1) Kankyoken; (2) Nihon Univ.
Taiki Osen Gakkai Koen Yoshishu, 1994, VOL.35th, PAGE.522, FIG.2
JOURNAL NUMBER: F0071BAW
UNIVERSAL DECIMAL CLASSIFICATION: 577.34:58.04 575.116
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Conference Proceeding
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication

**14/7/22 (Item 3 from file: 94)**
DIALOG(R)File 94:JICST-EPlus


02229834 JICST ACCESSION NUMBER: 94A0627171 FILE SEGMENT: JICST-E
***Detection* of *potato* virus Y by *ELISA*(NCM-*ELISA*) method using nitrocellulose membrane.**
SUEMATSU AKIO (1); TAKADA KEIZO (1)
(1) Minist. of Agric., For. and Fish., Natl. Center for Seeds and Seedlings
Shubyo Kanri Senta Tsumagoi Nojo Shiken Seisekisho, 1993, VOL.1992, PAGE.18-22, FIG.1, TBL.2, REF.8
JOURNAL NUMBER: X0761AAF
UNIVERSAL DECIMAL CLASSIFICATION: 578
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication

**14/7/23 (Item 4 from file: 94)**
DIALOG(R)File 94:JICST-EPlus


01617668 JICST ACCESSION NUMBER: 92A0665584 FILE SEGMENT: JICST-E
**Studies on the *Detection* of *apple* stem grooving virus by *ELISA*.**
NANBA ICHIRO (1); MAEKAWA AKINOBU (1); TANAKA YASUHIKO (1); YAMASHITA HIROSHI (1)
(1) Kobe Plant Protection Stn.
Shokubutsu Boekijo Chosa Kenkyu Hokoku(Research Bulletin of the Plant Protection Service Japan), 1992, NO.28, PAGE.13-19, FIG.3, TBL.4, REF.9
JOURNAL NUMBER: S0120AAL ISSN NO: 0387-0707 CODEN: SBCKA
UNIVERSAL DECIMAL CLASSIFICATION: 634.1/.8 632.38
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: *ELISA* methods was applied to *detect* *apple* stem grooving virus(ASGV) from apple and pear leaves. Antiserum was prepared by injection of purified ASGV(p-208) into a rabbit. The antiserum had titre of 1:512 against purified ASGV. Enzyme conjugete was made with alkaline phoshpatase. The optimal concentration for coating and conjugated IgG were 5.MU.g/ml and 1:100 dilution, respectively. Four apple trees ans six pear trees infected with ASGV were used for this test. ASGV was detected from the apple leaves by direct double antibody sandwich method. Test samples were grinded with PBT-PVP(phosphate buffer containing Tween-20 and polyvinyl pyrrolidone: pH 7.0) extraction buffer. Modified ELISA(test sample and conjugated IgG were mixed and incubated simultaneously) was adopted to detect ASGV from the pear leaves. Ovalbumin, nicotine and DIECA were added to the PBT-PVP extraction buffer to grind the pear leaves. (author abst.)

**14/7/24 (Item 5 from file: 94)**
DIALOG(R)File 94:JICST-EPlus


01374954 JICST ACCESSION NUMBER: 91A0822961 FILE SEGMENT: JICST-E
**Elimination of some viruses and mass clonal propagation of the rootstock by in vitro shoot apex culture in peach tree.**
MUNAKATA TAKASHI (1)
(1) Fukushima Fruit-Tree Exp. Stn.
Fukushimaken Kaju Shikenjo Kenkyu Hokoku(Bulletin of the Fukushima Fruit Tree Experiment Station), 1991, NO.14, PAGE.13-25, FIG.4, TBL.14, REF.14
JOURNAL NUMBER: Z0706ABB ISSN NO: 0389-276X
UNIVERSAL DECIMAL CLASSIFICATION: 634.1/.8 632.38 581.16
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: Most of the stone fruit trees growing in Japan are known to be infected with viruses, and we need to improve the methods to detect Chlorotic leafspot virus(CLSV) and Necrotic ringspot virus(NRSV rapidly in peach trees and propagate in vitro CLSV and NRSV-free plants to obtain good yield and qualit of peach fruits. In the present paper we describe a rapid method of detecting CLSV and NRSV by using Enzyme-linked immunosorbent assay(ELISA), and the succesful shoot apex culture to obtain CLSV free and NRSV free peach plants, followed by heat treatment. Moreover, mass propagation of the peach rootstock Tsukuba No. by shoot apex culture technique was achieved. 1. Shoot apex, less than 1mm long, were cultured in 1/2-1/4 strength of the

Murashige & Skoog(MS culture medium with BA(6-benzyladenine) at 0.2mg/l and 2g/l of activated carbon, transfered to the MS medium including a half strength of macro nutrients and 0.5mg/l of BA, and then in a MS medium containing a half strength of potassium nitrate + ammonium nitrate and 0.5mg/l of BA. This treatment resulted the rapid production of shoots. After more than ten times, subculture, the addition of IBA(indolebutyric acid) at 0.5mg/l to the medium, without BA induced rooting of the shoots. 2. Apices less than 1mm long cultured in this way perfectly free from CLSV in peach plants. However heat treatment of the culturing shoots in the bottle and apex culture again were necessary to obtain NRSV free *plants*. 3. *ELISA* *detection* for CLSV in the bark of infected peach trees. After the extract homogenized in volumes of the grinding medium, enzyme-conjugated immunoglobulin at 1:800 dilution were added to test well coated with 1.25.MU.g/ml of immunoglobulin. CLSV was detected throughout the year. NRSV was detected each of bark, buds and young leaves of infected peach trees throughout the year by using ELISA under the same assay condition as for CLSV. (abridged author abst.)

**14/7/25 (Item 6 from file: 94)**
DIALOG(R)File 94:JICST-EPlus


01057980 JICST ACCESSION NUMBER: 90A0415915 FILE SEGMENT: JICST-E
**Production of antiserum to a potyvirus from konjac *plants* and *detection* of the virus by *ELISA*.**
SHIMOYAMA JUN (1); HANADA KAORU (2); KAMEYA MITSURO (2); TOCHIHARA HIROSHI (3)
(1) Gunma Agricultural Res. Center; (2) National Agriculture Res. Center ; (3) Kyushu National Agricultural Exp. Stn.
Kanto Tosan Byogaichu Kenkyukai Nenpo(Proceedings of the Kanto-Tosan Plant Protection Society), 1989, VOL.36, PAGE.101-102, FIG.3, REF.7
JOURNAL NUMBER: F0760AAE ISSN NO: 0388-8258
UNIVERSAL DECIMAL CLASSIFICATION: 633.5/.9+634.38 632.38
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Short Communication
MEDIA TYPE: Printed Publication

**14/7/26 (Item 7 from file: 94)**
DIALOG(R)File 94:JICST-EPlus


00902235 JICST ACCESSION NUMBER: 89A0303399 FILE SEGMENT: JICST-E
**Simultaneous *detections* of three viruses in *potatoes* by *ELISA*.**
MIKI NOBUO (1)
(1) Nosuisho Shubyokanrise
Shubyo Kanri Senta Tsumagoi Nojo Shiken Seisekisho, 1989, VOL.1986/1987, PAGE.24-26, FIG.1, TBL.1
JOURNAL NUMBER: X0761AAF
UNIVERSAL DECIMAL CLASSIFICATION: 635.2 632.38
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication

**14/7/27 (Item 8 from file: 94)**
DIALOG(R)File 94:JICST-EPlus

00357338 JICST ACCESSION NUMBER: 87A0076692 FILE SEGMENT: JICST-E
***Detection* of *apple* stem grooving virus by *enzyme*-*linked* *immunosorbent* assay (ELISA).**
MACHIDA IKUO (1); SAITO AKIRA (1); FUKUSHIMA CHIMAO (1); TANAKA YAHEI (1)
(1) Aomori Apple Exp. Stn.
Kitanippon Byogaichu Kenkyu Kaiho(Annual Report of the Society of Plant Protection of North Japan), 1986, NO.37, PAGE.99-102, FIG.3, TBL.6, REF.5
JOURNAL NUMBER: F0809ABN ISSN NO: 0368-623X CODEN: KNBKA
UNIVERSAL DECIMAL CLASSIFICATION: 634.1/.8 632.38
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication

**14/7/28 (Item 9 from file: 94)**
DIALOG(R)File 94:JICST-EPlus


00075400 JICST ACCESSION NUMBER: 85A0219872 FILE SEGMENT: JICST-E
***Detection* of *potato* leaf-roll virus according to *enzyme* - *linked* *immunoadsorbent* assay. (Preliminary studies).**
UCHIDA MASAYUKI (1); SAGO KATSUYA (1); TANAKA SATOSHI (1)
(1) Tsumagoi Potato Foundation Stock Seed Farm
Tsumagoi Bareisho Gengenshu Nojo Shiken Seisekisho, 1983, VOL.1982, PAGE.14-17, FIG.2, REF.1
JOURNAL NUMBER: Z0087ABF
UNIVERSAL DECIMAL CLASSIFICATION: 635.2 632.38
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Short Communication
MEDIA TYPE: Printed Publication

**14/7/29 (Item 1 from file: 144)**
DIALOG(R)File 144:Pascal


12443827 PASCAL No.: 96-0100865
**Development and application of a rapid immunoassay for difenzoquat in wheat and barley products**
YEUNG J M; MORTIMER R D; COLLINS P G
Health Canada, food directorate, health protection branch, Ottawa ON K1A 0L2, Canada
Journal: Journal of agricultural and food chemistry, 1996, 44 (1) 376-380
ISSN: 0021-8561 CODEN: JAFCAU Availability: INIST-7332; 354000052539020670
No. of Refs.: 17 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: USA
Language: English
A sensitive and simple enzyme-linked immunosorbent assay (ELISA) is described for the quantification of difenzoquat (DFQ) in *foods* using polyclonal antibodies. Two hapten analogues of DFQ with five-carbon spacer arms attached to one of the aromatic rings were synthesized. The resulting antiserum was specific to DFQ. The minimum detection limit was 0.8 ng/mL for beer and 16 ng/g for cereals with an IC SUB 5 SUB 0 (50% inhibition of binding) of 0.28 ng/mL in this assay. The recoveries of DFQ spiked at three levels into beer, cereal, and bread ranged from 72% to 101%. The mean intra-assay and inter-assay coefficients of variation in this procedure were 4.6% and 6.9% for five commodities spiked at 100 ng/g or ng/mL DFQ,

respectively. The ELISA procedure was applied to a limited survey of 13 beers and 12 breads, but no detectable DFQ residue was found.

**14/7/30 (Item 2 from file: 144)**
DIALOG(R)File 144:Pascal


12060840 PASCAL No.: 95-0260531
**Measurement of Gly m Bd 30K, a major soybean allergen, in soybean products by a sandwich enzyme-linked immunosorbent assay**
TSUJI H; OKADA N; YAMANISHI R; BANDO N; KIMOTO M; OGAWA T
Univ. Tokushima, school medicine, dep. nutrition, Kuramoto-cho, Tokushima 770, Japan
Journal: Bioscience, biotechnology, and biochemistry, 1995, 59 (1) 150-151
ISSN: 0916-8451 Availability: INIST-8935; 354000056420620410
No. of Refs.: 9 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: Japan
Language: English
By a sandwich enzyme-linked immunosorbent assay, a soybean major allergen, Gly m Bd 30K, in soybean products was measured. The allergen occurred at high concentrations in soy milk, tofu, kori-dofu, and yuba, but its content in kinako was small. No allergen was found in fermented *foods* such as miso, shoya, and natto. The allergen was clearly shown to occur in meat balls, beef croquettes, and fried chicken that contained soybean protein isolate

**14/7/31 (Item 3 from file: 144)**
DIALOG(R)File 144:Pascal


11088729 PASCAL No.: 93-0595749
**Einsatz des EPS-ELISA zur Bestimmung von Schimmelpilzen der Gattungen Aspergillus und Penicillium in Lebensmitteln**
**(Use of EPS-ELISA for the determination of Aspergillus and Penicillium moulds in *food*)**
SCHWABE M; MENKE J; KRAEMER J
Univ. Bonn, Abt. Landwirtschaftliche Lebensmittel-Mikrobiologie, 5300 Bonn, Federal Republic of Germany
Journal: Archiv fuer Lebensmittelhygiene, 1993, 44 (3) 64-66
ISSN: 0003-925X CODEN: ALMHAO Availability: INIST-2716; 354000033816550020
No. of Refs.: 1/4 p.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: Federal Republic of Germany
Language: German Summary Language: English

**14/7/32 (Item 4 from file: 144)**
DIALOG(R)File 144:Pascal


10523802 PASCAL No.: 93-0033053
**Comparison of a commercial *ELISA* kit and TLC for *detection* of deoxynivalenol in *wheat***
PUTNAM M L; BINKERD K A
Purdue univ., animal disease prognostic lab., West Lafayette IN 47907, USA
Journal: Plant disease, 1992, 76 (10) p. 1078
ISSN: 0191-2917 CODEN: PLDIDE Availability: INIST-12673;

354000031661140270
No. of Refs.: 1 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: USA
Language: English

**14/7/33 (Item 5 from file: 144)**
DIALOG(R)File 144:Pascal


09547664 PASCAL No.: 91-0338092
**Occurrence of sweet potato feathery mottle virus in germplasm of Ipomoea batatas (L) in India**
KUMAR CA; MANDAL BB; CHANDEL KPS; JAIN RK; VARMA A; MUKESH SRIVASTAVA
National bureau plant genetic resources, New Delhi 110012, India
Journal: Current science, 1991, 60 (5) 321-325
ISSN: 0011-3891 CODEN: CUSCAM Availability: Institut national de la recherche agronomique (INRA, France)-DOCVE P348; CNRS-533
No. of Refs.: 9 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: India
Language: English

**14/7/34 (Item 6 from file: 144)**
DIALOG(R)File 144:Pascal


08828630 PASCAL No.: 89-0378037
**African cassava mosaic virus (ACMV): stability of purified virus and improved conditions for its detection in cassava leaves by ELISA**
KOUNOUNGUISSA B R; GIVORD L; WALTER B
INRA, stn. pathology vegetale, Colmar 68021, France
Journal: Journal of phytopathology (1986), 1989, 127 (1) 29-41
ISSN: 0931-1785 CODEN: JPHYEB Availability: CNRS-913
No. of Refs.: 2 p.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: Federal Republic of Germany
Language: English Summary Language: German; French
Conditions for improving virus detection in cassava samples were determined. The virus was better detected when leaves from diseased plants were ground in 100 mM Tris-HCl containing 1% polyvinylpyrrolidone at pH 8.5 than in phosphate buffer. Plant inhibitors were the restricting factor in the detection of virus by ELISA, but this difficulty was avoided when leaves to be tested were harvested from the top of the cassava plants

**14/7/35 (Item 7 from file: 144)**
DIALOG(R)File 144:Pascal


08338870 PASCAL No.: 88-0339530
**Uneven distribution of two potyviruses (feathery mottle virus and sweet potato latent virus) in sweet potato plants and its implication on virus indexing of meristem derived plants**
GREEN S K; KUO Y J; LE D R
Asian vegetable res. development cent., Tainan 74199, Taiwan
Journal: Tropical pest management, 1988, 34 (3) 298-302
ISSN: 0143-6147 CODEN: TPMAD5 Availability: Institut national de la recherche agronomique (INRA, France)-DOCVE P 180; CNRS-16129
No. of Refs.: 23 ref.
Document Type: P (Serial) ; A (Analytic)

Country of Publication: United Kingdom
Language: ENGLISH

**14/7/36 (Item 1 from file: 203)**
DIALOG(R)File 203:AGRIS


02208373 AGRIS No: 1998-014089
**Development of *enzyme*-*linked* *immunosorbent* assay system for the *detection* of deoxynivalenol in *corn***
Lee, H.B.; Shon, D.H. (Korea Food Research Institute, Songnam (Korea Republic). Food Chemistry and Physics Division); Kosaka, K.; Ueno, Y. (Faculty of Pharmaceutical Sciences, Science University of Tokyo, Tokyo (Japan). Department of Toxicology and Microbial Chemistry)
Journal: Korean Journal of Applied Microbiology and Biotechnology, Aug 1997, v. 25(4) p. 414-419
Notes: 3 illus.; 3 tables; 15 ref. ISSN: 0257-2389
Language: Korean Summary Language: English, Korean
Place of Publication: Korea Republic
Document Type: Journal Article, Summmary
Journal Announcement: 2402 Record input by Korea, Republic of

**14/7/37 (Item 2 from file: 203)**
DIALOG(R)File 203:AGRIS


01287828 AGRIS No: 88-063888
**Use of antisera to cylindrical inclusion bodies of potyviruses for virus screening and identification**
Hammond, J. (Florist and Nursery Crops Lab. USDA-ARS, Beltsville, MD (USA)); Lawson, R.H.
Conference Title: 6. International Symposium on Virus Diseases of Ornamental Plants
Conference Location and Year: Ithaca, NY (USA), 17-21 Jun 1984
**Sixth international symposium on virus diseases of ornamental plants**
Horst, R.K. (Cornell Univ., Ithaca, NY (USA). Dept. of Plant Pathology)
International Society for Horticultural Science (ISHS)
Publisher: ISHS , Wageningen (Netherlands), 1985, p. 225-232
Series title: Acta Horticulturae (Netherlands), no. 164
ISBN: 90-6605-491-3
Notes: 8 refs.
Language: English Summary Language: English
Place of Publication: Netherlands
Document Type: Analytic, Monograph, Conference, Summary
Journal Announcement: 1407 Record input by Netherlands

**14/7/38 (Item 3 from file: 203)**
DIALOG(R)File 203:AGRIS


01277279 AGRIS No: 88-049111
**Identification by ELISA test of Bradyrhizobium japonicum strains in culture and in nodules of soja (Glycine max (L.) Merr.) (Identification par test ELISA de souches de Bradyrhizobium japonicum en culture et dans les nodosites de soja (Glycine max (L.) Merr.))**
Fernandez-Flouret, D. (Institut National de la Recherche Agronomique, Montpellier (France). Centre de Montpellier, Laboratoire de Recherche sur les Symbiotes des Racines); Cleyet-Marel, J.C.
Journal: Comptes Rendus de l'Academie d'Agriculture de France, 1987, v. 73(1) p. 163-171

Notes: 10 ref. ISSN: 0151-1335
Language: French Summary Language: English, French
Place of Publication: France
Document Type: Journal Article, Summary
Journal Announcement: 1405 Record input by France

**14/7/39 (Item 4 from file: 203)**
DIALOG(R)File 203:AGRIS


01258894 AGRIS No: 88-024639
**Factors influencing ELISA evaluation of transmission of pea seed-borne mosaic virus in infected pea seed: seed-group size and seed decortication**
Maury, Y. (Institut National de la Recherche Agronomique, Versailles (France). Centre de Versailles, Station de Pathologie Vegetale); Bossennec, J.M.; Boudazin, G.; Hampton, R.; Pietersen, G.; Maguire, J.
Journal: Agronomie, 1987, v. 7(4) p. 225-230
Notes: 7 ref. ISSN: 0249-5627
Language: English Summary Language: English, French
Place of Publication: France
Document Type: Journal Article, Summary
Journal Announcement: 1403 Record input by France

**14/7/40 (Item 5 from file: 203)**
DIALOG(R)File 203:AGRIS


01129666 AGRIS No: 86-015534
**On the bead ELISA technique for detecting tobacco ring spot virus from soybean plants**
Wei, S.Q. (Shenyang Agricultural Coll., Shenyang (China)); Hill, J.H. (Iowa State Univ., Iowa (USA))
Journal: Acta Phytopathologica Sinica, Sep 1985, v. 15(3) p. 153-157
Notes: 3 ill.; 9 ref
Language: Chinese Summary Language: Chinese, English
Place of Publication: China
Document Type: Journal Article, Summary
Journal Announcement: 1203 Record input by China
?

**19/7/1 (Item 1 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)


08959477 BIOSIS NO.: 199396110978
**The effect of high M-r glutenin subunit composition on the results from tests used to predict durum wheat quality.**
AUTHOR: Kovacs M I P(a); Howes N K; Leisle D; Skerritt J H
AUTHOR ADDRESS: (a)Agric. Can., Res. Station, 195 Dafoe Road, Winnipeg, Manitoba, Can. R3T 2M9
JOURNAL: Journal of Cereal Science 18 (1):p43-51 1993
ISSN: 0733-5210
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: The relationships between protein content, sodium dodecyl sulphate sedimentation volume (SV), cooked gluten viscoelasticity (CGV), mixograph mixing development time (MDT) and pasta disc viscoelasticity (PDV) were investigated, and the effects of high M-r glutenin subunit composition upon these quality test parameters determined. Durum wheat wholemeals or semolinas from 143 F2-derived F4 families from crosses between the cultivars Vic and Berillo were tested for protein content, SV, CGV, MDT, PDV and high M-r glutenin subunits. To *identify* specific *wheat* endosperm proteins SDS-PAGE and *enzyme*-*linked* *immunosorbent* assay (ELISA) using MAb clones P24B (specific for gamma-gliadin 45) and clone 304/13 (specific for high M-r glutenin subunit-B1) were used. Vic and Berillo both gave high CGV and PDV values. Vic also had high SV and MDT values, whilst those for Berillo were relatively low. Lines having high M-r glutenin subunits 6 + 8 gave significantly higher SV values than those having high M-r glutenin subunits 20. The effects of high M-r glutenin subunit composition on CGV was inconsistent between years. The results indicate that, while both SV and CGV predict gluten strength, they are independent quality characteristics. Furthermore, MAb clone 304/13 could be used to identify breeders' lines containing high M-r glutenin subunits 6 + 8 or 20.

**19/7/2 (Item 2 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)


07943961 BIOSIS NO.: 000042019234
**CONFIRMATION OF LEPTOSPHAERIA-KORRAE THE CAUSAL AGENT OF NECROTIC RING SPOT ON KENTUCKY BLUEGRASS IN COLORADO**
AUTHOR: VOLTZ D C; BROWN W JR
AUTHOR ADDRESS: DEP. PLANT PATHOL., COLO. STATE UNIV., FORT COLLINS, COLO. 80523, USA.
JOURNAL: ANNUAL MEETING OF THE AMERICAN PHYTOPATHOLOGICAL SOCIETY, ST. LOUIS, MISSOURI, USA, AUGUST 17-21, 1991. PHYTOPATHOLOGY 81 (10). 1991. 1168. 1991
CODEN: PHYTA
DOCUMENT TYPE: Meeting
RECORD TYPE: Citation
LANGUAGE: ENGLISH

**19/7/3 (Item 3 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)


07277251 BIOSIS NO.: 000090057138
**COMPARISON OF TWO IMMUNOCHEMICAL METHODS WITH THIN-LAYER CHROMATOGRAPHIC**

**METHODS FOR DETERMINATION OF AFLATOXINS**
AUTHOR: TRUCKSESS M W; YOUNG K; DONAHUE K F; MORRIS D K; LEWIS E
AUTHOR ADDRESS: FOOD DRUG ADM., DIV. CONTAMINANTS CHEM., WASHINGTON, DC 20204.
JOURNAL: J ASSOC OFF ANAL CHEM 73 (3). 1990. 425-428. 1990
FULL JOURNAL NAME: Journal of the Association of Official Analytical Chemists
CODEN: JANCA
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: Three different methods were compared for the determination of total flatoxins in corn and peanuts naturally contaminated with aflatoxins and in corn, peanuts, cottonseed, peanut butter, and poultry feed spiked with aflatoxins B1, B2, and G1. The 3 methods were an enzyme-linked immunosorbent assay (ELISA) screening test; a monoclonal antibody-affinity column-solid-phase separation method; and the AOAC official thin-layer chromatography (TLC) methods for all except poultry feed, for which Shannon's TLC method for mixed feed was used. The ELISA test is designed to provide only positive results for total aflatoxins at .gtoreq. 20 ng/g or negative results at < 20 ng/g. The affinity column separation is coupled with either bromination solution fluorometry to estimate total aflatoxins or liquid chromatography (LC) to quantitate individual aflatoxins. Fluorodensitometry was used to determine aflatoxins in commodities analyzed by the TLC methods. The LC and TLC results were in good agreement for all the analyses. The results for the affinity column using bromination solution fluorometry were similar except those for cottonseed, which were about 60% higher. The *ELISA* screening method correctly *identified* naturally contaminated *corn* and peanut positive samples. No false positives were found for controls. The correct reponse for spiked corn, raw peanuts, peanut butter, and cottonseed at .gtoreq. 20 ng aflatoxins/g was about 90%. The correct response for spiked poultry feed at .gtoreq. 20 ng aflatoxins/g was about 50%.

**19/7/4 (Item 4 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)


05757711 BIOSIS NO.: 000084106118
**CHARACTERIZATION OF MONOCLONAL ANTIBODIES TO PROTOPLAST MEMBRANES OF NICOTIANA-TABACUM IDENTIFIED BY ELISA**
AUTHOR: HAHN M G; LERNER D R; FITTER M S; NORMAN P M; LAMB C J
AUTHOR ADDRESS: COMPLEX CARBOHYDRATE RES. CENT., UNIV. GEORGIA, P.O. BOX 5677, ATHENS, GEORGIA 30613, USA.
JOURNAL: PLANTA (BERL) 171 (4). 1987. 453-465. 1987
FULL JOURNAL NAME: PLANTA (Berlin)
CODEN: PLANA
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: Murine monoclonal antibodies to protoplast membrane antigens were generated using mouse myelomas and spleen cells from mice immunized with Nicotiana tabacum L. leaf protoplasts. For selecting antibody-secreting clones, a sensitive and rapid enzyme-linked immunosorbent assay (ELISA) for monoclonal antibody binding to immobilized cellular membrane preparations or immobilized protoplasts was developed. With intact protoplasts as immobilized antigen, the ELISA is selective for antibodies that bind to plasma-membrane epitopes present on the external surface of protoplasts. Using the membrane ELISA, a total of 24 hybridoma lines were *identified* that secreted antibodies to *plant* membrane epitopes. The protoplast *ELISA* and subsequent immunofluorescence studies identified

four hybridoma lines as secreting antibodies which bound to the external surface of protoplasts and cells. The corresponding antigens were not species- or tissue-specific, were periodate-sensitive and were located in membranes which equilibrated broadly throughout a linear sucrose gradient. When protein blots of electrophoretically separated membrane proteins were probed with these antibodies, a band of Mr 14 kilodaltons (kDa) and a smear of bands of Mr 45-120 kDa were labeled. An additional set of three antibodies appeared by immunofluorescence to bind to the plasma membrane of broken but not intact protoplasts and labeled membranes equilibrating at a density of approx. 1.12 kg .cntdot. l-1 in a linear sucrose density gradient. These classes of monoclonal antibodies enlarge the library of monoclonal antibodies (Normal et al. 1986, Planta 167, 452-459) available for the study of plant plasma-membrane structure and function.

**19/7/5 (Item 5 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)


05640237 BIOSIS NO.: 000083113384
**STORAGE EFFECTS ON *IDENTIFICATION* OF RHIZOBIA IN *SOYBEAN* NODULES BY *ELISA***
AUTHOR: MATHENY T A; KASPERBAUER M J; HUNT P G
AUTHOR ADDRESS: COASTAL PLAIN SOIL WATER CONSERVATION RES. CENTER, USDA-ARS, P.O. BOX 3039, FLORENCE, SC 29502-3039.
JOURNAL: SOIL SCI SOC AM J 51 (1). 1987. 264-265. 1987
FULL JOURNAL NAME: Soil Science Society of America Journal
CODEN: SSSJD
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: Serological analyses of rhizobia in soybean [Glycine max (L.) Merr.] nodules are time-consuming and often must be delayed for extended periods. The objective of this study was to assess the impact of drying and long-term storage on *identification* of rhizobia in *soybean* nodules by indirect *enzyme*-*linked* *immunosorbent* assay (ELISA). Nodules formed on 'Coker 338' by Bradyrhizobium japonicum strains USDA 3I1b110, NC1004, and B587 were either air-dried at 40.degree. C or freeze-dried, and then stored for 1 month at either ambient temperature, 5, -5 or -60.degree. C. Rhizobia within nodules from all drying and storage combinations were suitable for identification by ELISA. Results of this study indicate that large numbers of nodules can be collected and analyzed for serological identification of rhizobia at a later date, without loss of accuracy.

**19/7/6 (Item 1 from file: 6)**
DIALOG(R)File 6:NTIS


2092431 NTIS Accession Number: ADA350605/XAB
**Degradation of Munitions and Chlorinated Solvents by Aquatic Plants**
Wolfe, N. L.
Environmental Research Lab., Athens, GA.
Corp. Source Codes: 057445000; 392765
22 Apr 95 5p
Languages: English Document Type: Conference proceeding
Journal Announcement: GRAI9823
Presented at Fourteenth Annual Symposium 1995, Current Topics in Plant Biochemistry, Physiology and Molecular Biology, 'Will Plants Have a Role in Bioremediation.' University of Missouri, Columbia, MO, p45-46, April 19-22, 1995.

Nitroreductase and dehalogenase enzymes have been isolated from sediments and soils. Using enzyme linked immunospecific assays (*ELISA*), a number of aquatic *plants* have been *identified* as sources of the enzymes. The plants were then brought back into the laboratory and evaluated as candidates for further remediation studies.

**19/7/7 (Item 1 from file: 34)**
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci


01320765 Genuine Article#: GP444 Number of References: 20
**Title: COMPETITION BETWEEN A NATIVE ISOLATE OF RHIZOBIUM-LEGUMINOSARUM BV TRIFOLII AND 2 COMMERCIAL INOCULANT STRAINS FOR NODULATION OF CLOVER**
Author(s): FABIANO E; ARIAS A
Corporate Source: INST INVEST BIOL CLEMENTE ESTABLE,DIV BIOCHEM,AV ITALIA 3318/MONTEVIDEO//URUGUAY/
Journal: PLANT AND SOIL, 1991, V137, N2, P293-296
Language: ENGLISH Document Type: ARTICLE
Abstract: A naturalized rhizobial isolate from nodules obtained from persistent clover pastures was evaluated for its ability to form effective nodules in the presence of two commercial inoculant strains Rhizobium leguminosarum by trifolii U28 and WU290 recommended for white clover and subterranean clover, respectively. The competition experiment was performed in tubes, and indirect ELISA was used for identification of rhizobia present in the nodules. The ratios between the number of nodules containing only the naturalized isolate (PA8) and the number of nodules containing only the U28 strain were directly proportional to their respective inoculum densities when white clover was used as host plant. However, when the competition assay was done with different mixtures of PA8 and WU290, no WU290 bacteria were identified in subterranean clover nodules. The symbiotic performance of PA8, together with its persistence and competitive ability, suggests that naturalized strains may be useful in attempting to establish and maintain high-yielding pastures in Uruguay.

**19/7/8 (Item 2 from file: 34)**
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci


00744172 Genuine Article#: ET585 Number of References: 29
**Title: COMPETITION FOR NODULE OCCUPANCY OF INTRODUCED BRADYRHIZOBIUM-JAPONICUM STRAINS IN A WISCONSIN SOIL WITH A LOW INDIGENOUS BRADYRHIZOBIA POPULATION**
Author(s): MCLOUGHLIN TJ; HEARN S; ALT SG
Corporate Source: STINE MICROBIAL PROD,4722 PFLAUM RD/MADISON//WI/53704; AGRIGENET ADV SCI CO/MADISON//WI/53716
Journal: CANADIAN JOURNAL OF MICROBIOLOGY, 1990, V36, N12, P839-845
Language: ENGLISH Document Type: ARTICLE
Abstract: The population dynamics of six introduced Bradyrhizobium japonicum strains were measured over three growing seasons in a Wisconsin soil with a low incidence of indigenous B. japonicum (10 cells/gm). Four antibiotic-resistant members of the 123 serocluster (which were either spectinomycin resistant or streptomycin resistant), USDA 110, and USDA 138 were inoculated using liquid inoculum, at a rate of 1 x 10(8) cells per 2.5-cm row, on two soybean cultivars in 1985.

Nodule occupants were identified using an enzyme-linked immunosorbent assay (ELISA), fluorescent antibodies, and antibiotic-resistant mutants. In the first growing season, 100% of the nodules were formed by the introduced strains. The nodules from the uninoculated plots were occupied by an indigenous 110 serogroup. In the second and the third season at the same site (without further inoculation), a high percentage ( > 60%) of the nodules from all the plots were nodulated by the 123 serocluster (either alone or as mixed infections). However, < 25% of the nodules in the 123-inoculated plots and < 9% in the other plots were formed by any of the antibiotic-marked 123 inoculum strains introduced in 1985. The main conclusions are (i) that it is possible to successfully introduce inoculum strains in soils where the indigenous Bradyrhizobium population is low and to obtain 100% nodule occupancy in the first growing season, and (ii) that successful inoculation in one year in soils with a low incidence of Bradyrhizobium does not ensure that the introduced inoculum strains will form nodules in subsequent years.

**19/7/9 (Item 1 from file: 76)**
DIALOG(R)File 76:Life Sciences Collection


01130431 1734598
**Monoclonal antibodies against the maize bushy stunt agent.**
Chen, T.A.; Jiang, X.F.
Dep. Plant Pathol., Cook Coll., New Jersey Agric. Exp. Stn., Rutgers Univ., New Brunswick, NJ 08903, USA
CAN. J. MICROBIOL./J. CAN. MICROBIOL. vol. 34, no. 1, pp. 6-11 (1988.)
DOCUMENT TYPE: Journal article LANGUAGE: ENGLISH SUMMARY LANGUAGE: FRENCH
SUBFILE: Microbiology Abstracts Section A: Industrial and Applied Microbiology; Microbiology Abstracts Section B: Bacteriology

Monoclonal antibodies against a mycoplasmalike organism that causes maize bushy stunt disease were produced by using partially purified preparations from infected corn plants as immunogen. Splenic cells from immunized mice were fused with P3/NS-1/1-Ag4-1 murine myeloma cells. Four stable hybridoma clones that secreted specific antibodies against the maize bushy stunt mycoplasmalike organism were selected from several thousand clones. The monoclonal antibodies were isotyped and determined to belong to immunoglobulin classes IgM and IgG2a. With these monoclonal antibodies, the maize bushy stunt mycoplasmalike organism was specifically *identified* from infected *corn* tissue by *enzyme*-*linked* *immunosorbent* assay in vitro and by immunofluorescent staining in situ.

**19/7/10 (Item 1 from file: 144)**
DIALOG(R)File 144:Pascal


09745796 PASCAL No.: 91-0542930
**Monoclonal antibodies that recognize the repeat motif of the S-poor prolamins**
BRETT G M; MILLS E N C; PARMAR S; TATHAM A S; SHEWRY P R; MORGAN M R A
AFRC inst. food res., Norwich NR4 7UA, United Kingdom
Journal: Journal of cereal science, 1990, 12 (3) 245-255
ISSN: 0733-5210 CODEN: JCSCDA Availability: INIST-20093; 354000015517050060; INIST; 354000015517050060
No. of Refs.: 35 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: United Kingdom
Language: English
A panel of murine monoclonal antibodies (MAbs) was generated to the total

glutenin fraction of wheat. Two of the MAbs were characterized in terms of their binding to cereal prolamins using immunoassay and immunoblotting techniques. Their specificities, as determined by immunoassay, were restricted, binding mainly to the S-poor prolamins of barley, wheat and rye, and they exhibited a high affinity for the major repeat motif, present in these polypeptides

**19/7/11 (Item 2 from file: 144)**
DIALOG(R)File 144:Pascal


08989757 PASCAL No.: 90-0157934
**Preparation of monoclonal antibodies against specific gliadin proteins and preliminary investigation of their ability to discriminate cereal cultivars**
DAWOOD M R; HOWES N K; BUSHUK W
Univ. Manitoba, food sci. dep., Winnipeg MB R3T 2N2, Canada
Journal: Journal of cereal science, 1989, 10 (2) 105-112
ISSN: 0733-5210 Availability: CNRS-20093
No. of Refs.: 16 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: United Kingdom
Language: English
() MAbs prepared against gliadin 45 gave a low reaction in ELISA to extracts of einkorn, rye, barley and some common and durum wheats, and higher reaction to other common and durum wheats. Protein blotting of total gliadins separated by SDS-PAGE showed that MAbs against gliadin 45 bound to one discrete region corresponding to the location of gliadin 45. MAbs prepared against gliadin 74 gave a low reaction to rye, a medium reaction to barley, and a high reaction to all common and durum wheats and einkorn. Protein blotting showed that these MAbs bound to the region corresponding to alpha - and beta -gliadins

**19/7/12 (Item 3 from file: 144)**
DIALOG(R)File 144:Pascal


08781147 PASCAL No.: 89-0330448
**La maladie de Pierce arruve dans les vignobles d'Europe**
**(Pierce's disease reaches the european vineyards)**
BOUBALS D
ENSA, chaire viticulture, Montpellier 34060, France
Journal: Bulletin de l'O.I.V. (Office international de la Vigne et du Vin), 1989, 62 (699-700) 309-314
ISSN: 0029-7127 CODEN: BLOVAJ Availability: Institut national de la recherche agronomique (INRA, France)-DOCVE P37; CNRS-910
Document Type: P (Serial) ; A (Analytic)
Country of Publication: France
Language: French Summary Language: English

**19/7/13 (Item 4 from file: 144)**
DIALOG(R)File 144:Pascal


07925494 PASCAL No.: 87-0453843
**Anwendung des ELISA beim Nachweis des Feuerbranderregers in Obstanlagen**
**(Utilisation du test ELISA pour l'identification du feu bacterien dans les vergers)**
**(ELISA used for identification of fire blight in orchards)**
ZIELKE R; FICKE W

Akad. landwirtschaftswiss. DDR, inst. phytopathologie, Aschersleben 4320, German Democratic Republic
Journal: Nachrichtenblatt fuer den Pflanzenschutz in der DDR, 1987, 41 ( 9) 191-193
ISSN: 0323-5912 Availability: Institut national de la recherche agronomique (INRA, France)-ZA VEZ; CNRS-343
No. of Refs.: 6 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: German Democratic Republic
Language: German Summary Language: Russian; ENGLISH

**19/7/14 (Item 5 from file: 144)**
DIALOG(R)File 144:Pascal
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07865115 PASCAL No.: 87-0344889
**Identification par test ELISA de souches de Bradyrhizobium japonicum en culture et dans des nodosites de soja (Glycine max (L.) Merr.)**
**(Identification by ELISA test of Bradyrhizobium japonicum strains in culture and in nodules of soja (Glycine max (L.) Merr.))**
FERNANDEZ-FLOURET D; CLEYETAMAREL J C; MOYSE A
INRA-ELISA, lab. rech. symbiotes racines, Montpellier 34060, France
Journal: Comptes rendus des seances de l'Academie d'agriculture de France , 1987, 73 (1) 163-171
ISSN: 0151-1335 Availability: Institut national de la recherche agronomique (INRA, France)-DOCVE P4; CNRS-724
No. of Refs.: 10 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: France
Language: FRENCH Summary Language: ENGLISH

**19/7/15 (Item 6 from file: 144)**
DIALOG(R)File 144:Pascal
(c) 2001 INIST/CNRS. All rts. reserv.

07732935 PASCAL No.: 87-0212556
**Enzyme-linked immunosorbent assay for specific identification and enumeration of Azospirillum brasilense Cd. in cereal roots**
LEVANONY H; BASHAN Y; KAHANA Z E
Weizmann inst. sci., dep. plant genetics, Rehovot, Israel
Journal: Applied and environmental Microbiology, 1987, 53 (2) 358-364
ISSN: 0099-2240 Availability: CNRS-7195
No. of Refs.: 31 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: USA
Language: ENGLISH
Mise au point d'une technique ELISA applicable en cultures pures, dans des cultures mixtes et dans la rhizosphere de diverses cereales inoculees (triticum aestivum, Zea mays, Hordeum sativum, H. spontaneum, triticale, Sorghum bicolor, Setaria italica, Secale cereale)

**19/7/16 (Item 7 from file: 144)**
DIALOG(R)File 144:Pascal
(c) 2001 INIST/CNRS. All rts. reserv.

05441273 PASCAL No.: 85-0213738
**A comparison of the fluorescent ELISA and antibiotic resistance identification techniques for use in ecological experiments with Rhizobium trifolii**
RENWICK A; JONES D G

Univ. coll. Wales, Penglais Aberystwyth Dyfed SY23 3DD, United Kingdom
Journal: Journal of applied Bacteriology, 1985, 58 (2) 199-206
ISSN: 0021-8847 Availability: CNRS-7415
No. of Refs.: 19 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: United Kingdom
Language: English

**19/7/17 (Item 8 from file: 144)**
DIALOG(R)File 144:Pascal


05434478 PASCAL No.: 85-0206843
**Simplified enzyme-linked immunosorbent assay for routine identification of Rhizobium japonicum antigens**
FUHRMANN J; WOLLUM A G II
North Carolina state univ., soil sci. dep., Raleigh NC 27695, USA
Journal: Applied and environmental Microbiology, 1985, 49 (4) 1010-1013
ISSN: 0099-2240 Availability: CNRS-7195
No. of Refs.: 15 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: USA
Language: English

**19/7/18 (Item 1 from file: 203)**
DIALOG(R)File 203:AGRIS


02261761 AGRIS No: 1998-079990
**The ELISA test application for potato-cyst nematodes (Globodera rostochiensis and G. pallida) identification [Solanum tuberosum] (Verifica del metodo ELISA per l'identificazione dei nematodi cisticoli della patata e sue modifiche per l'identificazione di Globodera pallida in popolazioni miste [Solanum tuberosum])**
Cotroneo, A.; Gotta, P. (Regione Piemonte, Turin (Italy). Osservatorio per le Malattie delle Piante)
Journal: Informatore Fitopatologico, Jul-Aug 1997, v. 47(7-8) p. 47-52
Notes: 2 tables; 2 graphs; 10 ref. ISSN: 0020-0735
Language: Italian Summary Language: English, Italian
Place of Publication: Italy
Document Type: Journal Article, Summmary
Journal Announcement: 2408 Record input by Italy
A monoclonal antobody kit was used in *ELISA* test for the *identification* of the *potato*-cyst nematodes (Globodera rostochiensis and G. pallida). The differentiation between the two species, based on morphological and morphometric characters, may be uncertain and very laborious. It could be useful to have a methodology for routinary analysis reliable and easily performable. Modifications were apported to the original kit to analyse a greater number of cysts per plate. The ELISA test resulted very useful and simple for result interpretation.
E' stato utilizzato un kit per test ELISA che prevede l'impiego di anticorpi monoclonali per effettuare l'identificazione dei nematodi cisticoli della patata Globodera rostochiensis e G. pallida. La differenziazione tra le due specie, basata su caratteri morfologici e morfometrici, risulta laboriosa e puo' non essere sicura. E' utile poter disporre di una metodologia che permetta analisi di routine affidabili e di facile esecuzione. Sono state apportate alcune modifiche alle procedure originali, che consentono di analizzare un maggior numero di esemplari per piastra. Il test non ha presentato problemi applicativi e di interpretazione dei risultati.

**19/7/19 (Item 2 from file: 203)**
DIALOG(R)File 203:AGRIS


02110322 AGRIS No: 97-048727
**Monoclonal antibodies against Deroceras reticulatum and Arion ater eggs for use in predation studies**
Mendis, V.W.; Bowen, I.D.; Liddell, J.E.; Symondson, W.O.C. (School of Pure of Applied Biology and School of Molecular and Medical Biosciences, University of Wales Cardiff, PO Box 915, Cardiff CF1 3TL (United Kingdom))
**Slug and snail pests in agriculture. Proceedings of a Symposium, University of Kent, Canterbury, UK, 24-26 September 1996.**
Publisher: British Crop Protection Council , Farnham (United Kingdom), 1996, p. 99-106
ISBN: 0-948404-96-5
Notes: 26 ref.
Language: English
Place of Publication: United Kingdom
Document Type: Analytic, Monograph,
Journal Announcement: 2304 Record input by United Kingdom

**19/7/20 (Item 3 from file: 203)**
DIALOG(R)File 203:AGRIS


02091437 AGRIS No: 97-019794
**Serologically based diagnostic and quantification tests for nematodes**
Davies, K.G.; Curtis, R.H.; Evans, K. (IACR-Rothamsted, Harpenden, Hertfordshire Al5 2JQ (United Kingdom))
Journal: Pesticide Science, 1996, v. 47(1) p. 81-87
Notes: 27 ref.
Language: English
Place of Publication: United Kingdom
Document Type: Journal Article,
Journal Announcement: 2302 Record input by United Kingdom

**19/7/21 (Item 4 from file: 203)**
DIALOG(R)File 203:AGRIS


01906990 AGRIS No: 95-114913
**(ELISA (enzyme-linked immunosorbent assay) used in grain growing. A new method for early diagnosis of fungal pests) (ELISA im Getreidebau. Neues Verfahren zur Frueherkennung von pilzlichen Schaderregern)**
Obst, A. (Bayerische Landesanstalt fuer Bodenkultur und Pflanzenbau Freising-Muenchen, Muenchen (Germany). Abt. Pflanzenschutz); Schmid, R.
Journal: Zuckerruebe, 1995, v. 1(suppl.1) p. 20-22
Notes: 7 ill., 3 tables ISSN: 0044-5398
Language: German
Place of Publication: Germany
Document Type: Journal Article,
Journal Announcement: 2110 Record input by Germany

**19/7/22 (Item 5 from file: 203)**
DIALOG(R)File 203:AGRIS


01901066 AGRIS No: 95-105524
**[Identification and semi-quantification of aflatoxins in corn] (**

**Identificacion y semicuantificacion de aflatoxinas en maiz)**
Casanova, C.; Garre, J.; Pujola, M.; Sancho, J. (Escola Superior de Agronomia, Barcelona (Espana). Dept. de Agronomia e Industrias Agroalimentarias)
Journal: Alimentaria, Ene-Feb 1995, (no.259) p. 45-47
Notes: 1 tab.; 11 ref. ISSN: 0300-5755
Language: Spanish Summary Language: English, Spanish
Place of Publication: Espana
Document Type: Journal Article, Summary
Journal Announcement: 2109 Record input by Spain

**19/7/23 (Item 6 from file: 203)**
DIALOG(R)File 203:AGRIS


01734449 AGRIS No: 94-004857
**Diagnosis of Septoria by means of ELISA (Diagnosticering af Septoria ved hjaelp af ELISA)**
Junker, K.
Statens Planteavlsforsoeg, Lyngby (Denmark)
Conference Title: 9. Danish Plant Protection Conference: Pests and Diseases
Conference Location and Year: Lyngby (Denmark), 1992
Journal: Beretning. Statens Planteavlsforsoeg, 1992, (no.S2179) p. 133-138
Notes: 3 ref. ISSN: 0109-3142
Language: Danish Summary Language: Danish, English
Place of Publication: Denmark
Document Type: Journal Article, Conference, Summary
Journal Announcement: 2001 Record input by Denmark

**19/7/24 (Item 7 from file: 203)**
DIALOG(R)File 203:AGRIS


01652889 AGRIS No: 93-015322
**[Use of serological tests for diagnosis of cereal diseases] (Halmbruch: Vom Mikroskop zum Serum-Test)**
Zwatz, B. (Bundesanstalt fuer Pflanzenschutz, Vienna (Austria)); Zederbauer, R.
Journal: Pflanzenschutz-Praxis, 1992, (no.3) p. 30-32
Notes: 6 ill., 1 table
Language: German Summary Language: German
Place of Publication: Germany, F.R.
Document Type: Journal Article, Summary
Journal Announcement: 1902 Record input by Germany

**19/7/25 (Item 8 from file: 203)**
DIALOG(R)File 203:AGRIS


01463167 AGRIS No: 90-110872
**[An ELISA DAS-indirect method to characterize Rhizoctonia solani AG3] ( Caracterisation immunologique de Rhizoctonia solani AG3 par ELISA et immunotransfert)**
Le Coz Gillet, S. (Institut National de la Recherche Agronomique, Le Rheu (France). Centre de Rennes, Groupement Regional d'Interet Scientifique et Phytosanitaire); Hingand, L.
Conference Title: 2. Conference internationale sur les maladies des plantes. 2. International conference on plant diseases

Conference Location and Year: Bordeaux (France), 8-10 Nov 1988
**Proceedings of the second international conference on plant diseases, 8-9-10 November 1988, Bordeaux Lac (France) (Compte rendu de la deuxieme conference internationale sur les maladies des plantes, 8-9-10 novembre 1988, Bordeaux Lac)**
Association Nationale de Protection des Plantes, Paris (France)
Publisher: ANPP , Paris (France), 1988, v. 1 p. 725-732
Series title: Annales ANPP (France), no. 4
ISBN: ISBN2-905550-21-X; 2-902550-22-8
Notes: 5 graphs, 5 ref.
Language: French Summary Language: French, English
Place of Publication: France
Document Type: Analytic, Monograph, Conference, Summary
Journal Announcement: 1611 Record input by France

**19/7/26 (Item 9 from file: 203)**
DIALOG(R)File 203:AGRIS


01413938 AGRIS No: 90-031890
**A new methodological approach for phytohormone quantitation by immunological techniques. Application to the morphogenesis of the tomato, Lycopersicon esculentum Mill., cv. Graigella and a lateral suppressor mutant (Nouvelle approche methodologique du dosage de phytohormones par des techniques immunologiques. Application a la morphogenese de la tomate, Lycopersicon esculentum Mill. cv. Graigella et a un mutant, lateral suppressor)**
Maldiney, R. (Universite de Paris-6 (France). Laboratoire de Physiologie Vegetale); Pelese, F.; Sotta, B.; Miginiac, E.
Journal: Bulletin de la Societe Botanique de France Actualites Botaniques, 1988, v. 135(4) p. 33-43
Notes: 18 ref. ISSN: 0181-1789
Language: French Summary Language: French, English
Place of Publication: France
Document Type: Journal Article, Summary
Journal Announcement: 1604 Record input by France

**19/7/27 (Item 1 from file: 434)**
DIALOG(R)File 434:SciSearch(R) Cited Ref Sci


04770946 Genuine Article#: PM944 Number of References: 0
**Title: THE *DIFFERENTIATION* OF DISTINCT SEROTYPES FROM *POTATO* LEAF ROLL AFFECTED PLANTS BY *ENZYME*-*LINKED* *IMMUNOSORBENT* ASSAY (ELISA)**
Author(s): LIU HY; DUFFUS J
Corporate Source: US ARS,SUGARBEET PROD RES UNIT/SALINAS//CA/00000
Journal: AMERICAN POTATO JOURNAL, 1982, V59, N10, P476
Language: ENGLISH Document Type: MEETING ABSTRACT
?

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File 306:Pesticide Fact File 1998/Jun
         (c) 1998 BCPC
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
         (c) 1998 Inst for Sci Info

Set     Items   Description
S1    5631184   ID OR IDENTIF? OR FINGERPRINT? OR FINGER()PRINT? OR DETECT?
S2    8775699   POTATO? OR SUGARBEET? OR SUGAR()BEET? ? OR CROP? ? OR PLAN-
             T? ? OR APPLE? OR TOMATO? OR PEAR? OR PEACH? OR BARLEY? OR CO-
             RN OR MAIZE OR WHEAT? OR SOYBEAN? OR SOY()BEAN? ? OR RICE
S3     896672   DIFFERENTIAT?
S4    7321325   SPECIES? OR TYPE? OR PHENOTYPE? OR GENOTYPE?
S5     228274   ELISA OR ENZYME()LINK?()IMMUNO?
S6     103570   ENZYME()LINK?()IMMUNOSORBENT?
S7      98049   (S1 OR S3)(4N)S2
S8       5365   S7 AND (S5 OR S6)
S9        941   S8/1998:2001
S10      2347   S7(5N)(S5 OR S6)
S11       235   S10/1998:2001
S12      2112   S10 NOT S11
S13        51   S12 AND FOOD?
S14        40   RD (unique items)
S15       297   S12 NOT VIRUS?
S16       195   S15 NOT PATHOGEN?
S17       188   S16 NOT OCCURRENC?
S18        35   S17 NOT DETECT?
S19        27   RD (unique items)
S20      1110   S1(3N)S4(3N)(S5 OR S6)
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S21         805   S20 NOT VIRUS?
S22         109   S21 AND FOOD?
S23          19   S22/1998:2001
S24          90   S22 NOT S23
S25          91   (ID OR IDENTIF? OR DIFFERENTIAT?)(3N)(CROP? ?)(5N)(S5 OR S-
                    6)
S26           5   S25 AND FOOD?
?
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**24/7/1 (Item 1 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)


11130950 BIOSIS NO.: 199799752095
***Enzyme*-*linked* *immunosorbent* assays in *detection* of *species* origin of meats: A critical appraisal.**
AUTHOR: Mandokhot Usha V(a); Kotwal Sanjay K
AUTHOR ADDRESS: (a)Dep. Vet. Public Health Epidemiol., Coll. Vet. Sci., CCS Haryana Agric. Univ., Hisar 125 004**India
JOURNAL: Journal of Food Science and Technology 34 (5):p369-380 1997
ISSN: 0022-1155
DOCUMENT TYPE: Literature Review
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Identification of origin of meat products presents a serious problem to *food* analyst, who is confronted with providing a proof of fradulent substitution of mere expensive meat with cheaper meat. Thus, identification of the species and quantification of level of adulteration is a prerequisite for the regulatory control of such products. Recent developments in enzyme immuno assay techniques for the detection of species origin of meat, are critically discussed in this review. It is stressed that new approaches to species identification may have to place more emphasis on data interpretation. such as the use of specialized multivariate analysis in order to discriminate specific components of meat from other tissues.

**24/7/2 (Item 2 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)


09314238 BIOSIS NO.: 199497322608
**A sandwich enzyme-linked immunosorbent assay (ELISA) for the quantitation of selected peanut proteins in *foods*.**
AUTHOR: Hefle Susan L; Bush Robert K(a); Yunginger John W; Chu Fun Sun
AUTHOR ADDRESS: (a)Dep. Med., Univ. Wisconsin, Madison, WI**USA
JOURNAL: Journal of Food Protection 57 (5):p419-423 1994
ISSN: 0362-028X
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: A sandwich-*type*, *enzyme*-*linked* *immunosorbent* assay (*ELISA*) was developed for the *detection* of selected peanut proteins in *foods*. Monoclonal antibodies against a series of allergenic peanut proteins were used as the capture antibody. *Food* sample extracts were then added, and polyclonal rabbit antibodies directed against roasted peanut proteins were employed as secondary antibodies. The amount of allergen bound to the solid-phase was determined by a biotin and streptavidin-peroxidase system. Radioallergosorbent assay (RAST) inhibition studies of the *food* extracts were done as a comparison. The coefficient of determination for the ELISA and RAST assays was 0.85. Selected *food* samples were tested by RAST inhibition at another laboratory for comparison. Skin tests were done with selected samples in peanut-allergic adults, and the results correlated to the ELISA and RAST inhibition results. In other studies, defatted peanut protein (0.01 to 5.0%) were added to vanilla ice cream, then extracted and analyzed using ELISA and skin tests. The sensitivity of the ELISA in ice cream was approximately 40 mu-g/ml. In six of seven peanut-sensitive adults tested, the lowest level of added peanut protein (0.01%, 21 mu-g/ml) still caused a positive skin test reaction.

**24/7/3 (Item 3 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)


09119398 BIOSIS NO.: 199497127768
**Use of IgG- and IgM-specific ELISAs for the assessment of exposure status of chickens to Eimeria species.**
AUTHOR: Smith N C(a); Bucklar H; Muggli E; Hoop R K; Gottstein B; Eckert J
AUTHOR ADDRESS: (a)Inst. Parasitol., Univ. Zuerich, Winterthurerstr. 266a, CH-8057 Zuerich**Switzerland
JOURNAL: Veterinary Parasitology 51 (1-2):p13-25 1993
ISSN: 0304-4017
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Simple and reliable methods for the determination of the exposure status of chickens to Eimeria *species* are required. For this purpose an *enzyme*-*linked* *immunosorbent* assay (*ELISA*) *detecting* specific IgG and IgM antibodies in serum samples was evaluated. Sera from chickens hyperimmunised by intramuscular injection of a saline extract of Eimeria tenella sporozoites were used to determine optimal reaction conditions in the ELISA which were found to be at a serum dilution of 1:100 and an antigen concentration of 0.2 mu-g per reaction well. Saline extracts of sporulated oocysts and purified sporozoites of E. tenella were also potent antigens but most studies were carried out with sporozoite antigen. In a trial with 80 chickens, concentrations of serum IgM directed against sporozoite antigen increased significantly 9 days after primary infection with 10 000 oocysts of E. tenella per animal. IgM levels subsequently decreased rapidly reaching a plateau level only slightly higher than uninfected controls by about 15 days post-infection. In chickens challenged with 10 000 oocysts 21 days after primary infection significant increases of IgM levels were observed 2, 6 and 12 days later. In contrast IgG levels increased only slightly after primary infection but significant increases occurred after challenge infection so that by Day 12 after challenge sporozoite-specific IgG levels were much higher than in control chickens. Thus, it may be possible to discriminate between chickens actually infected with Eimeria (as indicated by high levels of antiparasite IgM), chickens which have been repeatedly exposed to Eimeria (as indicated by high levels of antiparasite IgG) and unexposed birds. The applicability of this ELISA, using sporozoite antigen of E. tenella to practical situations was substantially confirmed, since sampling of over 1000 sera from commercially reared broilers and laying hens indicated that broilers, maintained on medicated *food*, had low levels of IgM and IgG whereas 84-97% of the laying hens, receiving drug-free feed, had relatively high IgG concentrations. These results reflect low and rare exposure to Eimeria infections in broilers and repeated exposure of the hens.

**24/7/4 (Item 4 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)


09079615 BIOSIS NO.: 199497087985
**Species-specific immunoassay for Sitophilus granarius in wheat.**
AUTHOR: Chen Wen-Min; Kitto G Barrie(a)
AUTHOR ADDRESS: (a)Dep. Chem. Biochem., Univ. Texas, Austin, TX 78712**USA
JOURNAL: Food and Agricultural Immunology 5 (3):p165-175 1993
ISSN: 0954-0105
DOCUMENT TYPE: Article

RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: A *species*-specific *ELISA* has been developed for quantitatively *detecting* the presence of the granary weevil Sitophilus granarius in grain. The assay is based on the use of monoclonal antibodies (MAb) and polyclonal antibodies (PAb) directed against a 59 500 Da protein from S. granarius. This protein, tentatively termed the W protein, has an isoelectric point of 6.0. Two MAb to the W protein were obtained that exhibited clear specificity and did not react by ELISA with closely related species. Both MAb and PAb against the W protein were used to develop a specific sandwich ELISA immunoassay to estimate the proportion of S. granarius in an infesting insect population in wheat. The assay reported here also lays a foundation for the further development of MAb-based *ELISA* techniques for *detecting* specific insect *species* in contaminated grain.

**24/7/5 (Item 5 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)


08995669 BIOSIS NO.: 199497004039
**An *ELISA* for *detection* of botulinal toxin *types* A, B, and E in inoculated *food* samples.**
AUTHOR: Potter Marianne D(a); Meng Jianghong; Kimsey Paul
AUTHOR ADDRESS: (a)Westreco/Nestle, 201 Housatonic Ave., New Milford, CT 06776**USA
JOURNAL: Journal of Food Protection 56 (10):p856-861 1993
ISSN: 0362-028X
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: An enzyme-linked immunosorbent assay (ELISA) was developed to screen for the presence of botulinal toxin types A, B, and E in inoculated *food* studies. A commercially available trivalent antitoxin (Connaught Laboratories, Ontario) was used as a capture antibody and biotinylated for use as a secondary antibody. An avidin-alkaline phosphatase conjugate coupled with an enzyme-based amplification system resulted in a high degree of sensitivity. Detection levels of purified neurotoxins in gelatin phosphate buffer were 9 LD-50 for type A and lt 1 intraperitoneal mouse LD-50 for types B and E, respectively. Toxin produced by two-type F strain (proteolytic and nonproteolytic) was detected in a liquid laboratory medium. In a comparative study of over 490 samples of ground turkey meat inoculated with C. botulinum types E and nonproteolytic B, the ELISA gave no false negatives and 91 false positives. False positives were thought to be due to the presence of inactivated toxin or toxin levels insufficient to cause mouse death. Statistical analysis of these data showed an ELISA sensitivity of 100%, specificity of 70.6%, and an efficiency of 81.4% when compared to the mouse bioassay for detection of botulinal toxins types B and E. Coffee intermediates inoculated with proteolytic Clostridium botulinum types A and B caused nonspecific death in mice but were negative for presence of toxin by ELISA.

**24/7/6 (Item 6 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)


08310228 BIOSIS NO.: 000094072551
**COMPARISON OF TWO COMMERCIAL KITS FOR THE DETECTION OF ENTEROTOXINS**

**PRODUCED BY STAPHYLOCOCCUS-AUREUS STRAINS ISOLATED FROM *FOODS***
AUTHOR: MATHIEU A-M; ISIGIDI B K; DEVRIESE L A
AUTHOR ADDRESS: UNIV. LIEGE, FAC. VET. MED., BAT B42, B-4000 LIEGE, BELG.
JOURNAL: LETT APPL MICROBIOL 14 (6). 1992. 247-249. 1992
FULL JOURNAL NAME: Letters in Applied Microbiology
CODEN: LAMIE
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: Fifty-two biotyped and phage-typed Staphylococcus aureus strains previously tested for enterotoxin production by reversed passive latex agglutination were examined with a new 'sandwhich *type*' SET-*ELISA* kit designed to *detect* simultaneously five staphylococcal enterotoxins (SE). The strains were isolated from beef forequarters and meat cuts in Zaire. The enzyme-linked immunosorbent assay detected four additional SEE producers belonging to the human or non-host-specific biotypes (phage group III or not typable). Both methods, with the same cost per analysis, very good reliability and repeatability are easy to use for routine work. The tested SET-ELISA kit is particularly convenient for serial analyses but requires some training for the visual interpretation of the results.

**24/7/7 (Item 7 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)


07927701 BIOSIS NO.: 000093016099
***ELISA* USED FOR THE *IDENTIFICATION* OF *TYPE* A AND B STAPHYLOCOCCAL ENTEROTOXINS IN *FOOD***
AUTHOR: FLUER F S; MIKHEEVA G V; AKATOV A K; KUVAEVA I B; SHEVELEVA S A; KOLOSNITSINA N V
AUTHOR ADDRESS: N.F. GAMALEYA RES. INST. EPIDEMIOL. MICROBIOL., ACAD. MED. SCI. USSR, MOSCOW, USSR.
JOURNAL: VOPR PITAN 0 (3). 1991. 56-59. 1991
FULL JOURNAL NAME: Voprosy Pitaniya
CODEN: VPITA
RECORD TYPE: Abstract
LANGUAGE: RUSSIAN

ABSTRACT: Sandwich" variant of *ELISA* was used to *identify* staphylococcal enterotoxins (SE), *types* A and B, in S. aureus filtrates inducing *food* poisoning, in extracts of the lactic acid product for infants "Biphilin" that caused staphylococcal infection, and in *foods* contaminated with SE in varying concentrations. It has been shown that ELISA used for SE identification in *foods* permits revealing SE, types A and B, in liquid products in concentrations of 1-2 ng/ml (that is 1000-fold more sensitive, than the immunodiffusion test, 400-800-fold more sensitive than the passive hemagglutination test, and 10-fold more sensitive than the indirect passive hemagglutination test), and in solid products - in concentrations of 5-10 ng/g (after artificial contamination).

**24/7/8 (Item 8 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)


07326981 BIOSIS NO.: 000090106883
**THE GENERATION OF A TOLEROGEN AFTER THE INGESTION OF OVALBUMIN IS TIME-DEPENDENT AND UNRELATED TO SERUM LEVELS OF IMMUNOREACTIVE ANTIGEN**
AUTHOR: PENG H-J; TURNER M W; STROBEL S
AUTHOR ADDRESS: DEP. IMMUNOL., INST. CHILD HEALTH 30, GUILFORD ST., LONDON WC1N 1EH, UK.

JOURNAL: CLIN EXP IMMUNOL 81 (3). 1990. 510-516. 1990
FULL JOURNAL NAME: Clinical and Experimental Immunology
CODEN: CEXIA
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: In an attempt to investigate the molecular basis of the mechanisms underlying oral tolerance, we have evaluated the molecular and biological features of ovalbumin subjected to intestinal processing. Immunoreactive ovalbumin absorbed by the gut was measured by a sandwich ELISA at different times after feeding 25 mg ovalbumin to adult mice. Ovalbumin was detected as early as 5 min after the feed (36.7 .+-. 16 ng/ml; mean .+-. 1 s.d.) and reached maximal levels at 1 h (73.3 .+-. 20 ng/ml). Pooled mouse serum, collected 5 min or 1 h after the feed, was transferred intraperitoneally into the native recipients. Suppression of systemic delayed-type hypersensitivity (DTH) was found in mice receiving 0.8 ml of serum obtained 1 h after ovalbumin feeding but not when using serum obtained 5 min after feeding. In order to transfer samples containing similar levels of ovalbumin, an increased amount (1.3 ml) of serum collected 5 min post-feed was used in further experiments but again failed to induce DTH tolerance. Serum samples obtained 5 and 60 min after ovalbumin feeding were analysed by fast-protein liquid chromatography (FPLC) fractionation followed by ELISA. Both the charge characteristics and molecular weight of intestinally absorbed ovalbumin were indistinguishable from native ovalbumin. Although intact native ovalbumin is the only molecular *species* *detected* by *ELISA*, the results suggest that this has no role in the suppression of DTH responses.

**24/7/9 (Item 9 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)


07258832 BIOSIS NO.: 000090038708
**USE OF ENZYME-LINKED IMMUNOSORBENT ASSAY METHOD ELISA FOR THE DETECTION OF SALMONELLAE WITH VARIOUS SEROTYPES IN TAIWAN**
AUTHOR: HSIH H-Y; WANG S-J; TSEN H-Y
AUTHOR ADDRESS: DEP. FOOD SCI., NATL. CHUNG HSING UNIV., TAICHUNG, TAIWAN.
JOURNAL: J CHIN AGRIC CHEM SOC 27 (2). 1989. 167-174. 1989
FULL JOURNAL NAME: Journal of the Chinese Agricultural Chemical Society
CODEN: CKNHA
RECORD TYPE: Abstract
LANGUAGE: CHINESE

ABSTRACT: In order to evaluate the reliability of commercial enzyme-linked immunosorbent assay (ELISA) kit for salmonellae detection and to develop the ELISA kit in Taiwan for the screening of salmonellate in *foods*, we collected 51 strains of the common and uncommon salmonella isolated domestically in Taiwan and tested for their sensitivities and reliabilities to the commercial ELISA kit. The frequencies of contamination for these salmonellae isolates were ranged from 0.4% to 29%. When the commercial ELISA kit was used for the detection of these salmonellae strains, strains of D1 serogroup showed higher sensitivity sensitivity while some other strains showed lower senstivity. In comparison with the conventional microbiological method, accuracy of this ELISA kit was approximately 90.2%. In addition, to the 56 non-salmonellae isolates including the samonellae DNA closely related *species* of enterobacteriaceae, *detection* with the *ELISA* kit showed that the results were all negative. No false positive result was observed. When salmonella was grown with other species of Enterobacteriaceae, result of detection was also positive. This indicates that the non-salmonella would not interfere with the result of detection.

**24/7/10 (Item 10 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)


06992333 BIOSIS NO.: 000089093597
**MONOCLONAL ANTIBODY TO TYPE F CLOSTRIDIUM-BOTULINUM TOXIN**
AUTHOR: FERREIRA J L; HAMDY M K; MCCAY S G; ZAPATKA F A
AUTHOR ADDRESS: FOOD DRUG ADM., ATLANTA, GA. 30309, USA.
JOURNAL: APPL ENVIRON MICROBIOL 56 (3). 1990. 808-811. 1990
FULL JOURNAL NAME: Applied and Environmental Microbiology
CODEN: AEMID
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: Hybridomas synthesizing monoclonal antibodies (MAbs) against type F Clostridium botulinum toxin were developed. MAb from one stable hybridoma, hybridoma 223, consisted of kappa light chains and an immunoglobulin G subclass 2a heavy chain. This MAb was used in a double-sandwich *enzyme*-*linked* *immunosorbent* assay to *detect* *type* F toxin in *foods*, culture fluids, and purified toxin preparations. The sensitivity of the double-sandwich enzyme-linked immunosorbent assay was .apprx. 10 mouse lethal doses of toxin per ml of toxic fluid.

**24/7/11 (Item 11 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)


06800009 BIOSIS NO.: 000088109448
**DOT *ELISA* FOR *DETECTION* OF CLOSTRIDIUM-PERFRINGENS *TYPE* A ENTEROTOXIN**
AUTHOR: MEHTA R; NARAYAN K G; NOTERMANS S
AUTHOR ADDRESS: DEP. VET. PUBLIC HEALTH EPIDEMIOL., RANCHI VET. COLL., BIRSA AGRIC. UNIV., RANCHI-843007 BIHAR, INDIA.
JOURNAL: INT J FOOD MICROBIOL 9 (1). 1989. 45-50. 1989
FULL JOURNAL NAME: International Journal of Food Microbiology
CODEN: IJFMD
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: A procedure, which we have termed DOT-*ELISA*, to *detect* Clostridium perfringens *type* A enterotoxin on nitrocellulose paper is described. Seventy eight preparations from 39 cultures of C. perfringens type A were tested simultaneously by this and by Plate-ELISA methods. The results were comparable. DOT-ELISA detected as little as 0.02 .mu.g of purified enterotoxin and 0.13 .mu.g of enterotoxin in cell-free culture supernatant. As little as 0.02 .mu.g purified enterotoxin mixed with human faeces could be detected specifically. The method is simple and does not require an ELISA reader.

**24/7/12 (Item 12 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)


06230732 BIOSIS NO.: 000086064914
**EVALUATION OF A MONOCLONAL ANTIBODY-BASED IMMUNOASSAY FOR DETECTING TYPE B CLOSTRIDIUM-BOTULINUM TOXIN PRODUCED IN PURE CULTURE AND AN INOCULATED MODEL CURED MEAT SYSTEM**
AUTHOR: GIBSON A M; MODI N K; ROBERTS T A; HAMBLETON P; MELLING J
AUTHOR ADDRESS: AGRICULTURAL FOOD RES. COUNCIL, INST. FOOD RES., BRISTOL LAB., LANGFORD, BRISTOL BS18 7DY.

JOURNAL: J APPL BACTERIOL 64 (4). 1988. 285-292. 1988
FULL JOURNAL NAME: Journal of Applied Bacteriology
CODEN: JABAA
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: A monoclonal antibody-based amplified *ELISA* method for *detecting* Clostridium botulinum *type* B toxin was evaluated for its ability to detect the toxin in the supernatant fluid of pure cultures and after growth from Cl. botulinum spores inoculated into pork slurries. Slurries containing NaCl (1.5-4.5% w/v) and polyphosphate (0.3% w/v) were either unheated 80.degree. C/min followed by 70.degree. C/2 h before incubation at 15.degree., 20.degree. C. Presence of specific toxin was confirmed by mouse bioassay and results were compared with those of the amplified ELISA method. A total of 48 strains, consisting of 38 Cl. botulinum and 10 Cl. sporogenes (putrefactive anaerobes), and 140 slurry samples were tested. Cultures of eight out of nine strains of type B Cl. botulinum and 73 of 101 slurry samples containing type B toxin were positive by ELISA; the remaining 28 slurry samples containng type B toxin at levels below or close to the *detection* limit (20 LD50/ml) of the *type* *ELISA*. No false-positive reactions occurred with Cl. botulinum types A, C, D, E or F, or with the 10 strains of Cl. sporogenes. Toxin producecd by one strain of Cl. botulinum type B (NCTC 3807) was not detected by this single monoclonal antibody-based amplified ELISA. With a mixture of two monoclonal antibodies, however, the toxin from NCTC 3807 could be detected without reducing the sensitivity of the ELISA.

**24/7/13 (Item 13 from file: 5)**


06093989 BIOSIS NO.: 000085057138
**THE EFFECTS OF CURING AND COOKING ON THE DETECTION OF SPECIES ORIGIN OF MEAT PRODUCTS BY COMPETITIVE AND INDIRECT ELISA TECHNIQUES**
AUTHOR: DINCER B; SPEAROW J L; CASSENS R G; GREASER M L
AUTHOR ADDRESS: DEP. MEAT AND ANIM. SCI., UNIV. WISCONSIN, MADISON, WIS. 53706, USA.
JOURNAL: MEAT SCI 20 (4). 1987. 253-266. 1987
FULL JOURNAL NAME: Meat Science
CODEN: MESCD
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: The pruposes of this study were: (1) to develop and compare competitive and indirect *enzyme* *linked* *immunosorbent* assay (*ELISA* ) methods for *detecting* *species* specific albumins in meat samples and (2) to examine the effect of curing and cooking on the identification of species origin of meats. Commercially obtained rabbit anti-pig serum albumin (anti-PSA) and rabbit anti-sheep serum albumin (anti-SSA) were affinity purified, and used to develop competitive and indirect ELISA procedures for PSA and SSA. The competitive ELISA procedures showed the lowest cross-reactivity with related serum albumins. Both ELISA procedures were capable of detecting as little as 5% pork or sheep in beef. Curing resulted in little or no inhibition in the ability of ELISA procedures to detect pork or sheep inbeef. Cooking completely eliminated the ability of the competitive PSA ELISA to detect pork in beef, and of both SSA ELISA procedures to detect sheep in beef. Cooking also greatly reduced, but did not eliminate, the ability of the indirect PSA ELISA to detect pork in beef. Curing and cooking essentially eliminated the ability of the PSA ELISA procedure to detect pork in beef. Curing and cooking resulted in a 70 to 74% decrease in the signal of sheep meat in SSA ELISA procedures. These results demonstrated that competitive and

indirect ELISA procedures are capable of determining the species origin of raw and cured meat. Hearing raw or cured meats greatly reduced, but did not always eliminate, the ability of *ELISA* procedures to *detect* *species* origin of meats.

**24/7/14 (Item 14 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)


06040498 BIOSIS NO.: 000085003647
**EVALUATION OF A MONOCLONAL ANTIBODY-BASED IMMUNOASSAY FOR DETECTING TYPE A CLOSTRIDIUM-BOTULINUM TOXIN PRODUCED IN PURE CULTURE AND AN INOCULATED MODEL CURED MEAT SYSTEM**
AUTHOR: GIBSON A M; MODI N K; ROBERTS T A; SHONE C C; HAMBLETON P; MELLING J
AUTHOR ADDRESS: AGRIC. FOOD RES. COUNC., INST. FOOD RES., BRISTOL LAB., LANGFORD, BRISTOL BS18 7DY.
JOURNAL: J APPL BACTERIOL 63 (3). 1987. 217-226. 1987
FULL JOURNAL NAME: Journal of Applied Bacteriology
CODEN: JABAA
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: A monoclonal antibody-based amplified *enzyme*-*linked* *immunosorbent* assay (*ELISA*) method for *detecting* Clostridium botulinum *type* A toxin was evaluated for its ability to detect the toxin in the supernatant fluid of pure cultures and after growth from Cl. botulinum spores inoculated into pork slurries. Slurries containing NaCl (1.5-4.5% w/v) and polyphosphate (0.3% w/v) were either unheated or heated, 80.degree. C/5 min + 70.degree. C/2 h, before storage at 15.degree., 20.degree. or 27.degree. C. The presence of specific toxin was confirmed by mouse bioassay and results compared with those of the amplified ELISA method. A total of 49 strains, 39 Cl. botulinum and 10 Cl. sporogenes (putrefactive anaerobes), and 95 slurry samples were tested. Fourteen of 15 strains of type A Cl. botulinum and 34 of 36 slurry samples containing type A toxin were positive by ELISA. No false positive reactions occurred with Cl. botulinum types B, C, D, E and F, or with the 10 strains of Cl. sporogenes. However, toxin produced by one strain of Cl. botulinum type A (NCTC 2012) was not detected by the amplified ELISA.

**24/7/15 (Item 15 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)


05261285 BIOSIS NO.: 000082101910
**A MODIFIED INDIRECT ELISA PROCEDURE FOR RAW MEAT SPECIATION USING CRUDE ANTI-SPECIES ANTISERA AND STABILIZED IMMUNOREAGENTS**
AUTHOR: JONES S J; PATTERSON R L S
AUTHOR ADDRESS: AFRC INST. FOOD RES., BRISTOL LAB., LANGFORD, BRISTOL BS18 7DY.
JOURNAL: J SCI FOOD AGRIC 37 (8). 1986. 767-775. 1986
FULL JOURNAL NAME: Journal of the Science of Food and Agriculture
CODEN: JSFAA
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: Indirect *enzyme*-*linked* *immunosorbent* assay (*ELISA*) for *species* *identification* of unheated meat materials has been modified to facilitate the use of non-specific (unpurified) anti-species antisera by integral assay inhibtion of heterologous cross-reactivity. Effective

ELISA treatments of three antisera (identifying beef, horse and pig) and four commercial products (identifying beef, horse, pig and sheep/goat) were determined using chequer-board microtitration assays against pure species antigens. Subsequent tests with aqueous meat extracts gave consistent absorbance differences between the homologous (high colour) and heterologous (low colour) responses and provided reliable, accurate species identification without the extensive prior purification of antisera (i.e. by affinity chromatography) previously required. This modified ELISA enabled efficient use of stabilised anti-species sera discs, prepared initially for application in a simplified agar-gel immunodiffusion (AGID) test; i.e. one disc (20 .mu.l freeze-dried antiserum) for testing two meat samples by the prescribed AGID made sufficient treated solution to test 50 meat samples on microtitre plates. Authentic species meat extracts are also stabilised on discs for convenience (reference responses and routine controls). ELISA in this form is a practical alternative to AGID screening tests or can be used in parallel back-up tests providing sensitive results in less than 3 h on a large or small scale.

**24/7/16 (Item 16 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)


04986419 BIOSIS NO.: 000031061551
**COMPARISON OF LATEX AGGLUTINATION AND *ELISA* FOR THE *DETECTION* OF CLOSTRIDIUM-PERFRINGENS *TYPE* A ENTEROTOXIN IN FECES**
AUTHOR: BERRY P R; STRINGER M F; UEMURA T
AUTHOR ADDRESS: FOOD HYGIENE LAB., CENT. PUBLIC HEALTH LAB., 61 COLINDALE AVE., LONDON NW9 5HT, UK.
JOURNAL: LETT APPL MICROBIOL 2 (5). 1986. 101-102. 1986
FULL JOURNAL NAME: Letters in Applied Microbiology
CODEN: LAMIE
RECORD TYPE: Citation
LANGUAGE: ENGLISH

**24/7/17 (Item 17 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)


04592031 BIOSIS NO.: 000079005068
***ENZYME*-*LINKED* *IMMUNOSORBENT* ASSAY *ELISA* FOR *DETECTION* OF CLOSTRIDIUM-BOTULINUM *TYPE* A AND TYPE B TOXINS IN STOOL SAMPLES OF INFANTS WITH BOTULISM**
AUTHOR: DEZFULIAN M; HATHEWAY C L; YOLKEN R H; BARTLETT J G
AUTHOR ADDRESS: INFECTIOUS DISEASE DIV., DEP. MED., BALTIMORE, MD. 21205.
JOURNAL: J CLIN MICROBIOL 20 (3). 1984. 379-383. 1984
FULL JOURNAL NAME: Journal of Clinical Microbiology
CODEN: JCMID
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: An ELISA for C. botulinum type A and type B toxins was assessed for diagnostic accuracy in cases of infant botulism. This test was positive in all 22 cases confirmed by the conventional tests, which included the mouse lethality assay and stool culture. Stool specimens from 5 cases were positive by culture, but the mouse lethality bioassay was either negative or toxicity was judged nonspecific since it could not be neutralized by specific antitoxin. The positibe ELISA results in these specimens suggested that this assay may be more reliable, in some cases, than the mouse bioassay. Of the 21 fecal specimens from suspected *foodborne* cases, 2 contained botulinal toxin demonstrate by the mouse

assay and the ELISA. With regard to specificity, 35 fecal specimens from infants and 19 from suspected *foodborne* cases which were negative in the bioassay for botulinal toxins A and B were also negative in the ELISA. Only 2 fecal specimens with negative bioassay gave positive ELISA readings, providing a specificity rate of 96%. ELISA may serve as a useful screening test to detect C. botulinum toxin in clinical specimens.

**24/7/18 (Item 18 from file: 5)**
DIALOG(R)File 5:Biosis Previews(R)


02742797 BIOSIS NO.: 000068053399
***ENZYME* *LINKED* *IMMUNO*-*SORBENT ASSAY FOR *DETECTION* OF CLOSTRIDIUM-BOTULINUM *TYPE* E TOXIN**
AUTHOR: NOTERMANS S; DUFRENNE J; KOZAKI S
AUTHOR ADDRESS: LAB. ZOONOSES FOOD MICROBIOL., NATL. INST. PUBLIC HEALTH, BILTHOVEN, NETH.
JOURNAL: APPL ENVIRON MICROBIOL 37 (6). 1979. 1173-1175. 1979
FULL JOURNAL NAME: Applied and Environmental Microbiology
CODEN: AEMID
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: The enzyme-linked immunosorbent assay using the double-sandwich technique was utilized to determine C. botulinum type E toxin. With this technique, about 80 mouse i.p. LD50 of toxin could be detected. Cross-reaction was hardly observed with C. botulinum type A and B toxins. No cross-reaction was observed with culture supernatants of C. botulinum type C or other Clostridium strains. In all probability this was due to the high specificity of the antiserum prepared against the toxic component of type E toxin. [This study has relevance in detecting the toxin in *foods*.]

**24/7/19 (Item 1 from file: 10)**
DIALOG(R)File 10:AGRICOLA


3507274 20512108 Holding Library: AGL
**Detection of species adulteration of pork products using agar-gel immunodiffusion and enzyme-linked immunosorbent assay**
Hsieh, Y.H.P. Johnson, M.A.; Wetzstein, C.J.; Green, N.R.
Auburn University, Auburn, AL.
Trumbull, Conn. : Food & Nutrition Press.
Journal of food quality. Feb 1996. v. 19 (1) p. 1-13.
ISSN: 0146-9428 CODEN: JFQUD7
DNAL CALL NO: TP373.5.J6
Language: English
Includes references
Place of Publication: Connecticut
Subfile: IND; OTHER US (NOT EXP STN, EXT, USDA; SINCE 12/76);
Document Type: Article
Mixing undeclared species in meat products is illegal under *food* labeling regulations. This study compared the conventional agar-gel immunodiffusion (AGID) with the *Enzyme*-*Linked* *Immunosorbent* Assay ( *ELISA*) for *detecting* *species* adulteration and assessed the *species* adulteration problem in raw ground pork products in Alabama retail markets. Forty-two ground pork and 87 fresh pork sausage samples collected throughout Alabama were examined by AGID and ELISA for four species: pork, beef, poultry and sheep. Using ELISA, 91% of the ground pork samples were found to contain other meats while 71% were found to be contaminated using AGID. Using ELISA, 54% of the sausage samples were found to contain

undeclared species while none were found to be contaminated using AGID. The major adulterating species in the pork products was beef followed by poultry and sheep. Reliable analytical methods, such as ELISA, must be used as a regulatory tool to discourage the meat species adulteration problem in retail markets.

**24/7/20 (Item 2 from file: 10)**
DIALOG(R)File 10:AGRICOLA


3449622 10696400 Holding Library: AGL
**Comparison of cultural procedures with the Listeria-Tek *ELISA* kit for the rapid *detection* of Listeria *species* in *foods* / S.J. Walker, P. Archer and J. Appleyard**
Walker, S. J.
Chipping Campden, Gloucestershire : Campden Food and Drink Research Association, [1990]
30 p. : ill. ; 30 cm.
Technical memorandum / Campden Food and Drink Research Association ; no. 572
DNAL CALL NO: TX599.T43 no.572
Language: English
"January 1990."
Includes bibliographical references (p. 17-18).
Place of Publication: England
Subfile: OTHER FOREIGN; 1;
Document Type: Monograph; Bibliographies

**24/7/21 (Item 3 from file: 10)**
DIALOG(R)File 10:AGRICOLA


3386437 20412276 Holding Library: AGL
**A sandwich enzyme-linked immunosorbent assay (ELISA) for the quantitation of selected peanut proteins in *foods***
Hefle, S.L. Bush, R.K.; Yunginger, J.W.; Chu, F.S.
Des Moines, Iowa : International Association of Milk, Food and Environmental Sanitarians.
Journal of food protection. May 1994. v. 57 (5) p. 419-423.
ISSN: 0362-028X CODEN: JFPRDR
DNAL CALL NO: 44.8 J824
Language: English
Includes references
Place of Publication: Iowa
Subfile: IND; OTHER US (NOT EXP STN, EXT, USDA; SINCE 12/76);
Document Type: Article
A sandwich-*type*, *enzyme*-*linked* *immunosorbent* assay (*ELISA*) was developed for the *detection* of selected peanut proteins in *foods*. Monoclonal antibodies against a series of allergenic peanut proteins were used as the capture antibody. *Food* sample extracts were then added, and polyclonal rabbit antibodies directed against roasted peanut proteins were employed as secondary antibodies. The amount of allergen bound to the solid-phase was determined by a biotin and streptavidin-peroxidase system. Radioallergosorbent assay (RAST) inhibition studies of the *food* extracts were done as a comparison. The coefficient of determination for the ELISA and RAST assays was 0.85. Selected *food* samples were tested by RAST inhibition at another laboratory for comparison. Skin tests were done with selected samples in peanut-allergic adults, and the results correlated to the ELISA and RAST inhibition results. In other studies, defatted peanut protein (0.01 to 5.0%) were added to vanilla ice cream, then extracted and analyzed using ELISA and skin tests. The sensitivity of the ELISA in ice

cream was approximately 40 micrograms/ml. In six of seven peanut-sensitive adults tested, the lowest level of added peanut protein (0.01%, 21 micrograms/ml) still caused a positive skin test reaction.

**24/7/22 (Item 4 from file: 10)**
DIALOG(R)File 10:AGRICOLA


3325670 20356911 Holding Library: AGL
**An *ELISA* for *detection* of botulinal toxin *types* A, B, and E in inoculated *food* samples**
Potter, M.D. Meng, J.H.; Kinsey, P.
Des Moines, Iowa : International Association of Milk, Food and Environmental Sanitarians.
Journal of food protection. Oct 1993. v. 56 (10) p. 856-861.
ISSN: 0362-028X CODEN: JFPRDR
DNAL CALL NO: 44.8 J824
Language: English
Includes references
Place of Publication: Iowa
Subfile: IND; OTHER US (NOT EXP STN, EXT, USDA; SINCE 12/76);
Document Type: Article
An enzyme-linked immunosorbent assay (ELISA) was developed to screen for the presence of botulinal toxin types A, B, and E in inoculated *food* studies. A commercially available trivalent antitoxin (Connaught Laboratories, Ontario) was used as a capture antibody and biotinylated for use as a secondary antibody. An avidin-alkaline phosphatase conjugate coupled with an enzyme-based amplification system resulted in a high degree of sensitivity. Detection levels of purified neurotoxins in gelatin phosphate buffer were 9 LD50 for type A and <1 intraperitoneal mouse LD for types B and E, respectively. Toxin produced by two-type F strains (proteolytic and nonproteolytic) was detected in a liquid laboratory medium. In a comparative study of over 490 samples of ground turkey meat inoculated with C botulinum types E and nonproteolytic B, the ELISA gave no false negatives and 91 false positives. False positives were thought to be due to the presence of inactivated toxin or toxin levels insufficient to cause mouse death. Statistical analysis of these data showed an ELISA sensitivity of 100%, specificity of 70.6%, and an efficiency of 81.4% when compared to the mouse bioassay for detection of botulinal toxins types B and E. Coffee intermediates inoculated with proteolytic Clostridium botulinum types A and B caused nonspecific death in mice but were negative for presence of toxin by ELISA.

**24/7/23 (Item 5 from file: 10)**
DIALOG(R)File 10:AGRICOLA


2979703 90015109 Holding Library: AGL
**Monoclonal antibody to type F Clostridium botulinum toxin**
Ferreira, J.L. Hamdy, M.K.; McCay, S.G.; Zapatka, F.A.
*Food* and Drug Administration, Atlanta, GA
Washington, D.C. : American Society for Microbiology.
Applied and environmental microbiology. Mar 1990. v. 56 (3) p. 808-811.
ISSN: 0099-2240 CODEN: APMBA
DNAL CALL NO: 448.3 AP5
Language: English
Includes references.
Subfile: OTHER US (NOT EXP STN, EXT, USDA; SINCE 12/76);
Document Type: Article
Hybridomas synthesizing monoclonal antibodies (MAbs) against type F Clostridium botulinum toxin were developed. MAb from one stable hybridoma,

hybridoma 223, consisted of kappa light chains and an immunoglobulin G subclass 2a heavy chain. This MAb was used in a double-sandwich *enzyme*-*linked* *immunosorbent* assay to *detect* *type* F toxin in *foods*, culture fluids, and purified toxin preparations. The sensitivity of the double-sandwich enzyme-linked immunosorbent assay was approximately 10 mouse lethal doses of toxin per ml of toxic fluid.

**24/7/24 (Item 6 from file: 10)**
DIALOG(R)File 10:AGRICOLA


2937574 89053549 Holding Library: AGL
**DOT-*enzyme* *linked* *immunosorbent* assay for *detection* of Clostridium perfringens *type* A enterotoxin**
Mehta, R. Narayan, K.G.; Notermans, S.
Birsa Agricultural University, Ranchi, India
Amsterdam : Elsevier Science Publishers, B.V.
International journal of food microbiology. Aug 1989. v. 9 (1) p. 45-50.
ISSN: 0168-1605 CODEN: IJFMDD
DNAL CALL NO: QR115.I57
Language: English
Includes references.
Subfile: OTHER FOREIGN;
Document Type: Article

**24/7/25 (Item 7 from file: 10)**
DIALOG(R)File 10:AGRICOLA


2925449 89913951 Holding Library: AGL
**Evaluation of the Listeria-Tek *ELISA* kit for the rapid *detection* of Listeria *species* in *foods* / S.J. Walker and P. Archer**
Walker, S. J.
Chipping Campden, Gloucestershire, England : Campden Food and Drink Research Association, 1988.
18, [9] p. : ill. ; 30 cm.
Technical memorandum / Campden Food & Drink Research Association ; no. 519
DNAL CALL NO: TX599.T43 no.519
Language: English
"October 1988."
Includes bibliographical references.
Place of Publication: England
Subfile: OTHER FOREIGN; 1;
Document Type: Monograph; Bibliographies

**24/7/26 (Item 8 from file: 10)**
DIALOG(R)File 10:AGRICOLA


2858915 88064681 Holding Library: AGL
**The effects of curing and cooking on the detection of species origin of meat products by competitive and indirect ELISA techniques**
Dincer, B. Spearow, J.L.; Cassens, R.G.; Greaser, M.L.
Essex : Elsevier Applied Science Publishers.
Meat science. 1987. v. 20 (4) p. 253-265.
ISSN: 0309-1740 CODEN: MESCD
DNAL CALL NO: TX373.M4
Language: English
Includes references.

Subfile: OTHER FOREIGN;
Document Type: Article

**24/7/27 (Item 9 from file: 10)**
DIALOG(R)File 10:AGRICOLA


2854146 88058419 Holding Library: AGL
**Meat-*species* *identification*: a semi-quantitative *ELISA*-based test to confirm the species of a given meat and to detect contamination of one meat species with another**
Pelly, J. Tindle, R.W.
Oxford : Blackwell Scientific Publications.
Technical series - Society for Applied Bacteriology. 1987. (24) p. 255-257.
ISSN: 0300-9610 CODEN: SBTSA
DNAL CALL NO: QR41.S6
Language: English
Includes references.
Subfile: OTHER FOREIGN;
Document Type: Article

**24/7/28 (Item 10 from file: 10)**
DIALOG(R)File 10:AGRICOLA


2666876 87028383 Holding Library: AGL
**Thermostable muscle antigens suitable for use in enzyme immunoassays for identification of meat from various species**
Kang'ethe, E.K. Lindqvist, K.J.
London : Elsevier Applied Science Publishers.
Journal of the science of food and agriculture. 1987. v. 39 (2) p. 179-184.
ISSN: 0022-5142 CODEN: JSFAA
DNAL CALL NO: 382 SO12
Language: English
Includes references.
Subfile: OTHER FOREIGN;
Document Type: Article

**24/7/29 (Item 11 from file: 10)**
DIALOG(R)File 10:AGRICOLA


2634618 87009346 Holding Library: AGL
**Immunological identification of meat species**
Patterson, R.L.S. Jones, S.J.; Kang'ethe, E.K.
[S.l.] : C.E.R.C.A., [1983?].
29th European Congress of Meat Researcher Workers : Salsomaggiore (Parma), 29.8-2.9.1983. p. 657-662.
DNAL CALL NO: TS1955.E9 1983
Language: English
Includes references.
Subfile: OTHER FOREIGN;
Document Type: Article

**24/7/30 (Item 12 from file: 10)**
DIALOG(R)File 10:AGRICOLA

2602085 86070671 Holding Library: AGL
**A modified indirect ELISA procedure for raw meat speciation using crude anti-species antisera and stabilised immunoreagents**
Jones, S.J. Patterson, R.L.S.
Oxford, Eng. : Blackwell Scientific Publications.
Journal of the science of food and agriculture. Aug 1986. v. 37 (8) p. 767-775.
ISSN: 0022-5142 CODEN: JSFAA
DNAL CALL NO: 382 SO12
Language: English
Includes references.
Subfile: OTHER FOREIGN;
Document Type: Article

**24/7/31 (Item 13 from file: 10)**
DIALOG(R)File 10:AGRICOLA
(c) format only 2001 The Dialog Corporation. All rts. reserv.

2579836 86053967 Holding Library: AGL
**Simplified *enzyme*-*linked* *immunosorbent* assay (*ELISA* ) for qualitative meat *species* *identification***
Jones, S.J. Patterson, R.L.S.
London : Elsevier Applied Science, c1985.
Biochemical identification of meat species : a seminar in Brussels, Belgium, 27-28 November 1984 / edited by R.L.S. Patterson. p. 107-117.
ISBN: 0853344086
DNAL CALL NO: TX556.M4B54
Language: English
Includes references.
Subfile: OTHER FOREIGN;
Document Type: Article

**24/7/32 (Item 14 from file: 10)**
DIALOG(R)File 10:AGRICOLA
(c) format only 2001 The Dialog Corporation. All rts. reserv.

2577157 86050883 Holding Library: AGL
**Comparison of latex agglutination and *ELISA* for the *detection* of Clostridium perfringens *type* A enterotoxin in faeces**
Berry, P.R. Stringer, M.F.; Uemura, T.
Oxford : Blackwell Scientific Publications.
Letters in applied microbiology. 1986. v. 2 (5) p. 101-102.
DNAL CALL NO: QR1.L47
Language: English
Includes references.
Subfile: OTHER FOREIGN;
Document Type: Article

**24/7/33 (Item 15 from file: 10)**
DIALOG(R)File 10:AGRICOLA
(c) format only 2001 The Dialog Corporation. All rts. reserv.

2499131 85069257 Holding Library: AGL
**Improved *species* *identification* of raw meat by double sandwich *enzyme*-*linked* *immunosorbent* assay**
Patterson, R.M. Whittaker, R.G.; Spencer, T.L.
Oxford, Eng. : Blackwell Scientific Publications.
Journal of the science of food and agriculture. Sept 1984. v. 35 (9) p. 1018-1023. ill.

ISSN: 0022-5142 CODEN: JSFAA
DNAL CALL NO: 382 SO12
Language: English
Includes 8 references.
Subfile: OTHER FOREIGN;
Document Type: Article

**24/7/34 (Item 16 from file: 10)**
DIALOG(R)File 10:AGRICOLA


2398873 84115999 Holding Library: AGL
***Enzyme*-*linked* *immunosorbent* assay for *detection* of Clostridium botulinum *type* A and type B toxins in stool samples of infants with botulism (*Food* poisoning)**
Dezfulian, M. Hatheway, C.L.; Yolken, R.H.; Bartlett, J.G.
Washington, D.C. : , American Society for Microbiology.
Journal of clinical microbiology. v. 20 (3) , Sept 1984. p. 379-383.
ISSN: 0095-1137
NAL: QR46.J6
Language: English
Includes references.
Subfile: OTHER US (NOT EXP STN, EXT, USDA; SINCE 12/76);
Document Type: ARTICLE

**24/7/35 (Item 17 from file: 10)**
DIALOG(R)File 10:AGRICOLA


2310211 84051348 Holding Library: AGL
***Detection* of Clostridium botulinum *type* A toxin by *enzyme*-*linked* *immunosorbent* assay with antibodies produced in immunologically tolerant animals**
Dezfulian, M. Bartlett, J.G.
Washington, D.C. : , American Society for Microbiology.
Journal of clinical microbiology. v. 19 (5) , May 1984. p. 645-648.
ISSN: 0095-1137
NAL: QR46.J6
Language: English
Includes references.
Subfile: OTHER US (NOT EXP STN, EXT, USDA; SINCE 12/76);
Document Type: ARTICLE

**24/7/36 (Item 18 from file: 10)**
DIALOG(R)File 10:AGRICOLA


2274358 84019842 Holding Library: AGL
**An *enzyme*-*linked* *immunosorbent* assay for *species* *identification* of raw meat (Substitution of sheep, horse and kangaroo meats in Australian beef exports)**
Whittaker, R.G.; JSFAA Spencer, T.L.; Copland, J.W.
Oxford : , Blackwell Scientific Publications.
Journal of the science of food and agriculture. v. 34 (10) , Oct 1983. p. 1143-1148.
ISSN: 0022-5142
NAL: 382 SO12
Language: English
Includes references.
Subfile: OTHER FOREIGN;

Document Type: ARTICLE

**24/7/37 (Item 19 from file: 10)**
DIALOG(R)File 10:AGRICOLA


2265791 84013161 Holding Library: AGL
**Rapid *detection* of Clostridium perfringens *type* A enterotoxin by *enzyme*-*linked* *immunosorbent* assay (Cause of *food*-borne disease)**
McClane, B.A.; JCMIDW Strouse, R.J.
Washington, D.C. : , American Society for Microbiology.
Journal of clinical microbiology. v. 19 (2) , Feb 1984. p. 112-115. ill.
ISSN: 0095-1137
NAL: QR46.J6
Language: English
Includes references.
Subfile: OTHER US (NOT EXP STN, EXT, USDA; SINCE 12/76);
Document Type: ARTICLE

**24/7/38 (Item 20 from file: 10)**
DIALOG(R)File 10:AGRICOLA


1973956 82022893 Holding Library: AGL
***Detection* of Clostridium botulinum *type* G toxin by *enzyme*-*linked* *immunosorbent* assay**
Lewis, G.E. Jr. Kulinski, S.S.; Reichard, D.W.; Metzger, J.F.
Washington, D.C., , American Society for Microbiology.
Applied and environmental microbiology. v. 42 (6) , Dec 1981. p. 1018-1022.
ISSN: 0099-2240
NAL: 448.3 AP5
Language: English
Includes 10 ref.
Subfile: OTHER US (NOT EXP STN, EXT, USDA; SINCE 12/76);
Document Type: ARTICLE

**24/7/39 (Item 21 from file: 10)**
DIALOG(R)File 10:AGRICOLA


1703301 80066990 Holding Library: AGL
**Prevention of cross-reactions in the *enzyme* *linked* *immunosorbent* assay (*ELISA*) for the *detection* of Staphylococcus aureus enterotoxin *type* B in culture filtrates and *foods***
Koper, J.W. Hagenaars, A.M.; Notermans, S.
Westport, Conn., , Food & Nutrition Press.
Journal of food safety. v. 2 (1) , 1980. p. 35-45. ill.
ISSN: 0149-6085
NAL: TP373.5.J62
Language: ENGLISH
18 ref.
Subfile: OTHER US (NOT EXP STN, EXT, USDA; SINCE 12/76);
Document Type: ARTICLE

**24/7/40 (Item 22 from file: 10)**
DIALOG(R)File 10:AGRICOLA

1701866 80065549 Holding Library: AGL
*Enzyme* *linked* *immunosorbent* assay (*ELISA*) for *detection* of Clostridium botulinum *type* B toxin (*Food* microbiology).
Kozaki, S. Dufrenne, J.; Hagenaars, A.M.; Notermans, S.
Tokyo, , National Institute of Health.
Japanese journal of medical science & biology. v. 32 (4) , Aug 1979. p. 199-205. ill.
ISSN: 0021-5112
NAL: R97.J28
Language: ENGLISH
Bibliography p. 204-205.
Subfile: OTHER USDA;
Document Type: ARTICLE

**24/7/41 (Item 23 from file: 10)**
DIALOG(R)File 10:AGRICOLA


1136380 789089149
***Enzyme*-*linked* *immunosorbent* assay for *detection* of Clostridium botulinum toxin *type* A [*Food* microbiology]**
Notermans, S; Dufrenne, J; Schothorst, M van
Jap J Med Sci Biol Feb 1978 31 (1): 81-85. Ref.
LC: R97.J28
Language: English
Document Type: ARTICLE

**24/7/42 (Item 1 from file: 28)**
DIALOG(R)File 28:Oceanic Abst.


1105002 86-05002
**"ELISA" as an aid in the identification of fish and molluscan prey of birds in marine ecosystems**
Walter, C.B.; O'Neill, E.; Kirby, R.
Percy FitzPatrick Inst. Afr. Ornithol., Univ. Cape Town, Cape Town, South Africa
J. EXP. MAR. BIOL. ECOL VOL. 96, NO. 1, pp. 97-102, 1986
SUMMARY LANGUAGE - ENGLISH
Languages: ENGLISH
Journal Announcement: V23N4
A serological technique known as ELISA (enzyme-linked immunosorbent assay) was used in an attempt to aid the identification of visually unidentifiable seabird stomach contents. A series of seabird-prey muscle-protein antisera was established. When these antisera were tested against pieces of digested and undigested prey species, the ELISA technique detected the prey from both digested and undigested samples. This method also enabled rapid quantitative analysis of the samples.

**24/7/43 (Item 1 from file: 34)**
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci


05687986 Genuine Article#: WQ516 Number of References: 31
**Title: Applying tests for specific yolk antibodies to predict contamination by Salmonella enteritidis in eggs from experimentally infected laying hens**
Author(s): Gast RK (REPRINT) ; Porter RE; Holt PS
Corporate Source: ARS,USDA, SE POULTRY RES LAB, 934 COLL STN

RD/ATHENS//GA/30605 (REPRINT); PURDUE UNIV,ANIM DIS DIAGNOST LAB/W LAFAYETTE//IN/47907
Journal: AVIAN DISEASES, 1997, V41, N1 (JAN-MAR), P195-202
ISSN: 0005-2086 Publication date: 19970100
Publisher: AMER ASSOC AVIAN PATHOLOGISTS, UNIV PENN, NEW BOLTON CENTER, KENNETT SQ, PA 19348-1692
Language: English Document Type: ARTICLE
Abstract: Detecting Salmonella enteritidis contamination in eggs has become the cornerstone of many programs for reducing egg-borne disease transmission, but egg culturing is time consuming and laborious. Preliminary screening tests are thus generally applied to minimize the number of flocks from which eggs must be cultured. The usefulness of such tests is directly proportional to both their detection sensitivity and their ability to predict the likelihood of egg contamination. In the present study, samples were collected for 24 days after groups of laying hens were orally inoculated with S. enteritidis. Eggs from each hen were cultured for S. enteritidis in the contents and samples of egg yolk were diluted and tested for specific antibodies to S. enteritidis flagella using both experimental and commercially available enzyme-linked immunosorbent assay (ELISA) methods. Samples of voided feces were also collected regularly from each bird and cultured for S. enteritidis. Although fecal shedding and egg yolk antibody production followed opposite patterns over time (fecal shedding was decreasing as egg yolk antibody titers were increasing), tests for both parameters were effective in predicting whether particular hens would lay contaminated eggs. Among hens that laid at least one egg contaminated by S. enteritidis, 82% were detected as infected by fecal culturing and 96% by the experimental egg yolk ELISA test. Using easily collected samples, egg yolk antibody testing offers a rapid and effective screening method for identifying S. enteritidis-infected laying flocks that might lay contaminated eggs.

**24/7/44 (Item 2 from file: 34)**
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci


04766029 Genuine Article#: UF890 Number of References: 72
**Title: PCR-BASED DNA ANALYSIS FOR THE IDENTIFICATION AND CHARACTERIZATION OF *FOOD* COMPONENTS**
Author(s): MEYER R; CANDRIAN U
Corporate Source: UNIV BERN,INST BIOCHEM,FOOD CHEM LAB,FREIESTR 3/CH-3012 BERN//SWITZERLAND/
Journal: FOOD SCIENCE AND TECHNOLOGY-LEBENSMITTEL-WISSENSCHAFT & TECHNOLOGIE, 1996, V29, N1-2, P1-9
ISSN: 0023-6438
Language: ENGLISH Document Type: REVIEW
Abstract: Analysis of specific nucleic acids in *food* allows control laboratories to determine the presence or absence of certain ingredients in complex products or the identification of specific characteristics of single *food* components. These analyses are based on nucleic acids probes, including the polymerase chain reaction (PCR), which made the detection of minute amounts of degraded nucleic acids and their sequence determination possible. In this review, we describe the approaches that have been taken to detect low levels of contaminants such as wheat in dietary *food* for coeliac patients and pork meat or fat in sausages. In addition, these methods may also be used for the identification of meat or fish species and the recognition of genetically altered *foods*, including the FlavrSavr(TM) tomato These examples indicate that a comprehensive description of *food* products based on the analysis of nucleic acids will be feasible. (C) 1996 Academic Press Limited.

**24/7/45 (Item 3 from file: 34)**
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci


04711802 Genuine Article#: UC466 Number of References: 25
**Title: DETECTION OF SPECIES ADULTERATION IN PORK PRODUCTS USING AGAR-GEL IMMUNODIFFUSION AND ENZYME-LINKED-IMMUNOSORBENT-ASSAY**
Author(s): HSIEH YHP; JOHNSON MA; WETZSTEIN CJ; GREEN NR
Corporate Source: AUBURN UNIV,DEPT NUTR & FOOD SCI/AUBURN//AL/36849
Journal: JOURNAL OF FOOD QUALITY, 1996, V19, N1 (FEB), P1-13
ISSN: 0146-9428
Language: ENGLISH Document Type: ARTICLE
Abstract: Mixing undeclared species in meat products is illegal under *food* labeling regulations. This study compared the conventional agar-gel immunodiffusion (AGID) with the *Enzyme*-*Linked* *Immunosorbent* Assay (*ELISA*) for *detecting* *species* adulteration and assessed the *species* adulteration problem in raw ground pork products in Alabama retail markets. Forty-two ground pork and 87 fresh pork sausage samples collected throughout Alabama were examined by AGID and ELISA for four species: pork, beef, poultry and sheep. Using ELISA, 91% of the ground pork samples were found to contain other meats while 71% were found to be contaminated using AGID. Using ELISA, 54% of the sausage samples were found to contain undeclared species while none were found to be contaminated using AGID. The major adulterating species in the pork products was beef followed by poultry and sheep. Reliable analytical methods, such as ELISA, must be used as a regulatory tool to discourage the meat species adulteration problem in retail markets.

**24/7/46 (Item 4 from file: 34)**
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci


03212511 Genuine Article#: NN281 Number of References: 20
**Title: A SANDWICH ENZYME-LINKED-IMMUNOSORBENT-ASSAY (ELISA) FOR THE QUANTITATION OF SELECTED PEANUT PROTEINS IN *FOODS***
Author(s): HEFLE SL; BUSH RK; YUNGINGER JW; CHU FS
Corporate Source: UNIV WISCONSIN,DEPT MED/MADISON//WI/53706; UNIV WISCONSIN,DEPT MED/MADISON//WI/53706; WILLIAM S MIDDLETON MEM VET ADM MED CTR/MADISON//WI/53705; UNIV WISCONSIN,INST FOOD RES/MADISON//WI/53706; MAYO CLIN & MAYO GRAD SCH MED,DEPT PEDIAT,ALLERG DIS RES LAB/ROCHESTER//MN/55901; MAYO CLIN & MAYO GRAD SCH MED,DEPT INTERNAL MED/ROCHESTER//MN/55901
Journal: JOURNAL OF FOOD PROTECTION, 1994, V57, N5 (MAY), P419-423
ISSN: 0362-028X
Language: ENGLISH Document Type: ARTICLE
Abstract: A sandwich-*type*, *enzyme*-*linked* *immunosorbent* assay ( *ELISA*) was developed for the *detection* of selected peanut proteins in *foods*. Monoclonal antibodies against a series of allergenic peanut proteins were used as the capture antibody. *Food* sample extracts were then added, and polyclonal rabbit antibodies directed against roasted peanut proteins were employed as secondary antibodies. The amount of allergen bound to the solid-phase was determined by a biotin and streptavidin-peroxidase system. Radioallergosorbent assay (RAST) inhibition studies of the *food* extracts were done as a comparison. The coefficient of determination for the ELISA and RAST assays was 0.85. Selected *food* samples were tested by RAST inhibition at another laboratory for comparison. Skin tests were done with selected samples in peanut-allergic adults, and the results correlated to the ELISA and RAST inhibition results.

In other studies, defatted peanut protein (0.01 to 5.0%) were added to vanilla ice cream, then extracted and analyzed using ELISA and skin tests. The sensitivity of the ELISA in ice cream was approximately 40 mug/ml. In six of seven peanut-sensitive adults tested, the lowest level of added peanut protein (0.01%, 21 mug/ml) still caused a positive skin test reaction.

**24/7/47 (Item 5 from file: 34)**
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci


02947202 Genuine Article#: MU207 Number of References: 20
**Title: USE OF IGG- AND IGM-SPECIFIC ELISAS FOR THE ASSESSMENT OF EXPOSURE STATUS OF CHICKENS TO EIMERIA SPECIES**
Author(s): SMITH NC; BUCKLAR H; MUGGLI E; HOOP RK; GOTTSTEIN B; ECKERT J
Corporate Source: UNIV ZURICH,INST PARASITOL,WINTERTHURERSTR 266A/CH-8057 ZURICH//SWITZERLAND/; UNIV ZURICH,INST VETERINARBAKTERIOL/CH-8057 ZURICH//SWITZERLAND/
Journal: VETERINARY PARASITOLOGY, 1993, V51, N1-2 (DEC), P13-25
ISSN: 0304-4017
Language: ENGLISH Document Type: ARTICLE
Abstract: Simple and reliable methods for the determination of the exposure status of chickens to Eimeria *species* are required. For this purpose an *enzyme*-*linked* *immunosorbent* assay (*ELISA*) *detecting* specific IgG and IgM antibodies in serum samples was evaluated. Sera from chickens hyperimmunised by intramuscular injection of a saline extract of Eimeria tenella sporozoites were used to determine optimal reaction conditions in the ELISA which were found to be at a serum dilution of 1: 100 and an antigen concentration of 0.2 mug per reaction well. Saline extracts of sporulated oocysts and purified sporozoites of E. tenella were also potent antigens but most studies were carried out with sporozoite antigen.

In a trial with 80 chickens, concentrations of serum IgM directed against sporozoite antigen increased significantly 9 days after primary infection with 10 000 oocysts of E. tenella per animal. IgM levels subsequently decreased rapidly reaching a plateau level only slightly higher than uninfected controls by about 15 days post-infection. In chickens challenged with 10 000 oocysts 21 days after primary infection significant increases of IgM levels were observed 2, 6 and 12 days later. In contrast IgG levels increased only slightly after primary infection but significant increases occurred after challenge infection so that by Day 12 after challenge sporozoite-specific IgG levels were much higher than in control chickens. Thus, it may be possible to discriminate between chickens actually infected with Eimeria (as indicated by high levels of antiparasite IgM), chickens which have been repeatedly exposed to Eimeria (as indicated by high levels of antiparasite IgG) and unexposed birds.

The applicability of this ELISA, using sporozoite antigen of E. tenella to practical situations was substantially confirmed, since sampling of over 1000 sera from commercially reared broilers and laying hens indicated that broilers, maintained on medicated *food*, had low levels of IgM and IgG whereas 84-97% of the laying hens, receiving drug-free feed, had relatively high IgG concentrations. These results reflect low and rare exposure to Eimeria infections in broilers and repeated exposure of the hens.

**24/7/48 (Item 6 from file: 34)**
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

02758520 Genuine Article#: MB545 Number of References: 23
**Title: AN *ELISA* FOR *DETECTION* OF BOTULINAL TOXIN *TYPE*-A, *TYPE*-B, AND TYPE-E IN INOCULATED *FOOD* SAMPLES**
Author(s): POTTER MD; MENG JH; KIMSEY P
Corporate Source: WESTRECO NESTLE,201 HOUSATON AVE/NEW MILFORD//CT/06776; UNIV CALIF DAVIS,SCH VET MED,DEPT EPIDEMIOL & PREVENT MED/DAVIS//CA/95616
Journal: JOURNAL OF FOOD PROTECTION, 1993, V56, N10 (OCT), P856-861
ISSN: 0362-028X
Language: ENGLISH Document Type: ARTICLE
Abstract: An enzyme-linked immunosorbent assay (ELISA) was developed to screen for the presence of botulinal toxin types A, B, and E in inoculated *food* studies. A commercially available trivalent antitoxin (Connaught Laboratories, Ontario) was used as a capture antibody and biotinylated for use as a secondary antibody. An avidin-alkaline phosphatase conjugate coupled with an enzyme-based amplification system resulted in a high degree of sensitivity. Detection levels of purified neurotoxins in gelatin phosphate buffer were 9 LD50 for type A and <1 intraperitoneal mouse LD50 for types B and E, respectively. Toxin produced by two-type F strains (proteolytic and nonproteolytic) was detected in a liquid laboratory medium. In a comparative study of over 490 samples of ground turkey meat inoculated with C. botulinum types E and nonproteolytic B, the ELISA gave no false negatives and 91 false positives. False positives were thought to be due to the presence of inactivated toxin or toxin levels insufficient to cause mouse death. Statistical analysis of these data showed an ELISA sensitivity of 100%, specificity of 70.6%, and an efficiency of 81.4% when compared to the mouse bioassay for detection of botulinal toxins types B and E. Coffee intermediates inoculated with proteolytic Clostridium botulinum types A and B caused nonspecific death in mice but were negative for presence of toxin by ELISA.

**24/7/49 (Item 7 from file: 34)**


01766045 Genuine Article#: HZ696 Number of References: 16
**Title: COMPARISON OF 2 COMMERCIAL KITS FOR THE DETECTION OF ENTEROTOXINS PRODUCED BY STAPHYLOCOCCUS-AUREUS STRAINS ISOLATED FROM *FOODS***
Author(s): MATHIEU AM; ISIGIDI BK; DEVRIESE LA
Corporate Source: STATE UNIV LIEGE,FAC VET MED,BAT B42/B-4000 LIEGE//BELGIUM/; STATE UNIV GHENT,FAC VET MED/B-9000 GHENT//BELGIUM/
Journal: LETTERS IN APPLIED MICROBIOLOGY, 1992, V14, N6 (JUN), P247-249
Language: ENGLISH Document Type: ARTICLE
Abstract: Fifty-two biotyped and phage-typed Staphylococcus aureus strains previously tested for enterotoxin production by reversed passive latex agglutination were examined with a new 'sandwich *type*' SET-*ELISA* kit designed to *detect* simultaneously five staphylococcal enterotoxins (SE). The strains were isolated from beef forequarters and meat cuts in Zaire. The enzyme-linked immunosorbent assay detected four additional SEE producers belonging to the human or non-host-specific biotypes (phage group III or not typable). Both methods, with the same cost per analysis, very good reliability and repeatibility, are easy to use for routine work. The tested SET-ELISA kit is particularly convenient for serial analyses but requires some training for the visual interpretation of the results.

**24/7/50 (Item 8 from file: 34)**

01209442 Genuine Article#: GE760 Number of References: 23
**Title: HIGH-PERFORMANCE SIZE-EXCLUSION CHROMATOGRAPHY AND ELISA DETECTION OF EXTRACELLULAR POLYSACCHARIDES FROM MUCORALES**
Author(s): DERUITER GA; VANDERLUGT AW; VORAGEN AGJ; ROMBOUTS FM; NOTERMANS SHW
Corporate Source: WAGENINGEN UNIV AGR,DEPT FOOD SCI,BOMENWEG 2/6703 HD WAGENINGEN//NETHERLANDS/; WAGENINGEN UNIV AGR,DEPT FOOD SCI,BOMENWEG 2/6703 HD WAGENINGEN//NETHERLANDS/; NATL INST PUBL HLTH & ENVIRONM PROTECT,WATER & FOOD MICROBIOL LAB/3720 BA BILTHOVEN//NETHERLANDS/
Journal: CARBOHYDRATE RESEARCH, 1991, V215, N1, P47-57
Language: ENGLISH Document Type: ARTICLE
Abstract: In this study high-performance size-exclusion chromatography and ELISA detection were used to study the extracellular polysaccharides excreted by mould species belonging to Mucorales. EPS preparations from different *species* were heterogeneous as *detected* by refractive index measurements. *ELISA* *detection* of fractions collected after high-performance size-exclusion chromatography revealed reactivity of antibodies with a limited number of polysaccharides with a retention time of 27 to 29 min in EPS preparations of all species tested. In addition to the immunochemically active polysaccharide fraction containing glucuronic acid, other neutral polysaccharides were present, depending on species and carbon source used for growth. The method employed allowed one to fractionate EPS preparations and to discriminate between immunochemically active and non-reactive components. All Mucorales tested produced polysaccharides reactive with polyclonal antibodies raised against EPS from Mucor racemosus.

**24/7/51 (Item 1 from file: 44)**
DIALOG(R)File 44:Aquatic Sci&Fish Abs


00219824 ASFA Accession Number: 1247245
**"ELISA" as an aid in the identification of fish and molluscan prey of birds in marine ecosystems.**
Walter, C B; O'Neill, E; Kirby, R
Percy FitzPatrick Inst. Afr. Ornithol., Univ. Cape Town, Cape Town, South Africa
"J. EXP. MAR. BIOL. ECOL.", vol. 96, no. 1, p. 97-102, 1986
LANGUAGE: English
SUMMARY LANGUAGE: English
DOCUMENT TYPE: Journal Article
A serological technique known as ELISA (enzyme-linked immunosorbent assay) was used in an attempt to aid the identification of visually unidentifiable seabird stomach contents. A series of seabird-prey muscle-protein antisera was established. When these antisera were tested against pieces of digested and undigested prey *species*, the *ELISA* technique *detected* the prey from both digested and undigested samples. This method also enabled rapid quantitative analysis of the samples.

**24/7/52 (Item 1 from file: 50)**
DIALOG(R)File 50:CAB Abstracts


03469235 CAB Accession Number: 980400023
**Detection and occurrence of verotoxin-forming and/or Shiga toxin-forming Escherichia coli (VTEC and/or STEC) in milk.**
Original Title: Nachweis und Vorkommen von Verotoxin- bzw. Shigatoxin-bildenden Escherichia coli (VTEC bzw. STEC) in Milch.
Klie, H.; Timm, M.; Richter, H.; Gallien, P.; Perlberg, K. W.; Steinruck, H.
Bundesinstitut fur gesundheitlichen Verbraucherschutz und

Veterinarmedizin, Fachbereich Bakteriologie Dessau, Jahnstrasse 8, D-06846 Dessau, Germany.
Berliner und Munchener Tierarztliche Wochenschrift vol. 110 (9): p.337-341
Publication Year: 1997 --
Language: German Summary Language: english
Document Type: Journal article
A method is presented for detecting verotoxin (VT)-forming strains of Escherichia coli (VTEC) in raw milk and determining associated modes of infection. 127 raw milk and 146 certified raw milk samples from 5 different regions in Germany were artificially contaminated with VTEC (date not given). Milk samples were used to create pre-enrichment cultures (PCULT). PCULT were then used to create enrichment cultures (ECULT). VT *detection* in ECULT took place using *ELISA* for *phenotypes* and polymerase chain reaction (PCR) for genotypes. It was followed by isolation of VT in PCULT (for VT-positive samples) using VT-specific monoclonal antibodies and the VT-colony immunoblot. ELISA and PCR were also used to confirm positive identification and characterize virulence factors. A detection sensitivity of 1-4 c.f.u./ml milk was attained. 3.9% of the raw milk samples and 2.1% of the certified raw milk samples were VTEC-positive. With the exception of 1 O157:H- serovar isolate from a raw milk sample, all VTEC found belonged to the group of non-O157 VTEC. They were assigned to 5 different serovars with different combinations of virulence markers. This method is designed to obtain comparable data for diagnostic use in German *food* control laboratories. The pathogenicity of VTEC with regard to human enterohaemorrhagic E. coli is considered. 28 ref.

**24/7/53 (Item 2 from file: 50)**
DIALOG(R)File 50:CAB Abstracts


03266056 CAB Accession Number: 961407603
**A sandwich enzyme-linked immunosorbent assay (ELISA) for the quantitation of selected peanut proteins in *foods*.**
Hefle, S. L.; Bush, R. K.; Yunginger, J. W.; Fun Sun Chu
Department of Medicine, University of Wisconsin, Madison, Wisconsin 53705, USA.
Journal of Food Protection vol. 57 (5): p.419-423
Publication Year: 1994
ISSN: 0362-028X --
Language: English
Document Type: Journal article
A sandwich-*type*, *enzyme*-*linked* *immunosorbent* assay (*ELISA*) was developed for the *detection* of selected peanut proteins in *foods*. Monoclonal antibodies against a series of allergenic peanut proteins were used as the capture antibody. *Food* sample extracts were then added, and polyclonal rabbit antibodies directed against roasted peanut proteins were employed as secondary antibodies. The amount of allergen bound to the solid-phase was determined by a biotin and streptavidin-peroxidase system. Radioallergosorbent assay (RAST) inhibition studies of the *food* extracts were done as a comparison. The coefficient of determination for the ELISA and RAST assays was 0.85. Selected *food* samples were tested by RAST inhibition at another laboratory for comparison. Skin tests were done with selected samples in peanut-allergic adults, and the results correlated to the ELISA and RAST inhibition results. In other studies, defatted peanut protein (0.01 to 5.0%) was added to vanilla ice cream, then extracted and analysed using ELISA and skin tests. The sensitivity of the ELISA in ice cream was about 40 micro g/ml. In 6 of 7 peanut-sensitive adults tested, the lowest level of added peanut protein (0.01%, 21 micro g/ml) still caused a positive skin test reaction. 20 ref.

**24/7/54 (Item 3 from file: 50)**
DIALOG(R)File 50:CAB Abstracts


02934912 CAB Accession Number: 941108592
**Comparative studies on detection methods for the stubborn disease pathogen of citrus Spiroplasma citri Saglio et al. in insect vectors.**
Original Title: Vergleichende Untersuchungen zu Nachweismethoden des Erregers der Zitrusstauche Spiroplasma citri Saglio et al. in Insektenvektoren.
Kersting, U.; Sengonca, C.
Institut fur Pflanzenkrankheiten, Universitat Bonn, D-5300 Bonn 1, Germany.
Mitteilungen der Deutschen Gesellschaft fur Allgemeine und Angewandte Entomologie vol. 8 (4-6): p.765-770
Publication Year: 1993
ISSN: 0344-9084 --
Language: German Summary Language: english
Document Type: Conference paper; Journal article
Three methods for detecting Spiroplasma citri (the causative agent of stubborn disease in Citrus) in insect vectors were compared, with a view to their use for assessing periods of high probability of transmission. In studies on numerous potential vectors, the pathogen was *detected* in 18 *species* using *ELISA* , as compared with 5 by culture. In transmission trials, only the cicadellid Circulifer opacipennis was able to transmit S. citri to Catharanthus roseus. The results presented suggest that only transmission trials can indicate a vector clearly, but ELISA can indicate periods of high probability of transmission. 13 ref.

**24/7/55 (Item 4 from file: 50)**
DIALOG(R)File 50:CAB Abstracts


02884053 CAB Accession Number: 941301269
**An *ELISA* for *detection* of botulinal toxin *types* A, B, and E in inoculated *food* samples.**
Potter, M. D.; Meng, J.; Kimsey, P.
Westreco/Nestle, 201 Housatonic Avenue, New Milford, Connecticut 06776, USA.
Journal of Food Protection vol. 56 (10): p.856-861
Publication Year: 1993
ISSN: 0363-028X --
Language: English
Document Type: Journal article
An enzyme-linked immunosorbent assay (ELISA) was developed to screen for the presence of botulinal toxin types A, B, and E in inoculated *food* studies. A commercially available trivalent antitoxin (Connaught Laboratories, Ontario) was used as a capture antibody and biotinylated for use as a secondary antibody. An avidin-alkaline phosphatase conjugate coupled with an enzyme-based amplification system resulted in a high degree of sensitivity. Detection levels of purified neurotoxins in gelatin phosphate buffer were 9 LD50 for type A and <1 intraperitoneal mouse LD50 for types B and E, resp. Toxin produced by two-type F strs (proteolytic and nonproteolytic) was detected in a liquid laboratory medium. In a comparative study of over 490 samples of ground turkey meat inoculated with Clostridium botulinum types E and non-proteolytic B, the ELISA gave no false negatives and 19 false positives. False positives were thought to be due to the presence of inactivated toxin or toxin levels insufficient to cause mouse death. Statistical analysis of these data showed an ELISA sensitivity of 100%, specificity of 70.6%, and an efficiency of 81.4% when compared to the mouse bioassay for detected of botulinal toxins types B

and E. Coffee intermediates inoculated with proteolytic C. botulinum types A and B caused non-specific death in mice but were negative for presence of toxin by ELISA. 23 ref.

**24/7/56 (Item 5 from file: 50)**
DIALOG(R)File 50:CAB Abstracts


02865056 CAB Accession Number: 942209003
**Use of the Listeria Tek *ELISA* for the *detection* of Listeria *species* in fish and environmental samples.**
Original Title: Bruk av Listeria Tek (ELISA) til pa visning av Listeria spp. i fiske-og miljoprover fra en fiskebedrift.
Rorvik, L. M.; Heidenreich, B.
Institutt for Farmakologi Mikrobiologi og Naeringsmiddelhygiene, Norges Veterinaerhogskole, Postboks 8146 Dep., 0033 Oslo, Norway.
Norsk Veterinaertidsskrift vol. 105 (5): p.523-526
Publication Year: 1993 --
Language: Norwegian Summary Language: english
Document Type: Journal article
The commercial ELISA kit Listeria Tek was compared with the culture method of the Nordic Committee on *Food* Analysis (NMKN). Of 146 fish samples tested, 45 were positive for Listeria by NMKN, 44 by ELISA and 40 by both tests. For the 171 environmental (water) samples tested, 65 were positive by NMKN, 71 by ELISA and 65 by both methods. 13 ref.

**24/7/57 (Item 6 from file: 50)**
DIALOG(R)File 50:CAB Abstracts


02846520 CAB Accession Number: 940402320
**Immunological methods in *food* analysis.**
Original Title: Tecnicas inmunologicas en el analisis de alimentos.
Blazquez de los Riscos, A.; Hera Macias, E. de la; Salas Zapatero, J.
Centro de Investigacion y Control de la Calidad, Avda. Cantabria s/n, 28042 Madrid, Spain.
Alimentaria vol. 30 (239): p.23-26
Publication Year: 1993
ISSN: 0300-5755 --
Language: Spanish Summary Language: english
Document Type: Journal article
In this paper, presented at the 11th International Congress of Chemistry, held in Burgos, Spain, immunological methods used in *food* analysis, and their advantages and disadvantages are discussed in comparison with other methods, such as HPLC and electrophoresis. Particular applications described include the use of radial immunodiffusion for identifying milk of different *species* in cheese, double immunodiffusion for *identifying* *species* of meat, and the use of *ELISA* (available in kit form) for *detection* of mycotoxins and of gliadins that may cause coeliac disease. 8 ref.

**24/7/58 (Item 7 from file: 50)**
DIALOG(R)File 50:CAB Abstracts


02823241 CAB Accession Number: 941402280
**Development of a sensitive immunomagnetic separation *ELISA* for *detection* of Clostridium perfringens *type* A enterotoxin in faecal and *food* samples.**
Cudjoe, K. S.; Thorsen, L. I.

MATFORSK, Norwegian Food Research Institute, Osloveien 1, 1430 As, Norway.
Conference Title: Food safety and quality assurance: applications of immunoassay systems: proceedings conference, Bowness-on-Windermere, Cumbria, 19-22 March 1991
p.299-305
Publication Year: 1992
Editors: Morgan, M. R. A.; Smith, C. J.; Williams, P. A.
Publisher: Elsevier Science Publishers Ltd. -- Barking, UK
ISBN: 1-85166-747-4
Language: English
Document Type: Conference paper
A simple, rapid and sensitive immunoassay, based on immuno-magnetic particles, for detection and quantification of Clostridium perfringens type A enterotoxin in faecal and *food* extracts is described. 12 ref.

**24/7/59 (Item 8 from file: 50)**
DIALOG(R)File 50:CAB Abstracts


02808720 CAB Accession Number: 940800636
**Use of IgG- and IgM-specific ELISAs for the assessment of exposure status of chickens to Eimeria species.**
Smith, N. C.; Bucklar, H.; Muggli, E.; Hoop, R. K.; Gottstein, B.; Eckert, J.
Institut fur Parasitologie, Universitat Zurich, Winterthurerstrasse 266a, CH-8057, Zurich, Switzerland.
Veterinary Parasitology vol. 51 (1/2): p.13-25
Publication Year: 1993
ISSN: 0304-4017 --
Language: English
Document Type: Journal article
In an effort to find a simple and reliable method for the determination of the exposure status of chickens to Eimeria *species*, an *ELISA* *detecting* specific IgG and IgM antibodies in serum samples was evaluated. Sera from chickens hyperimmunized by im injection of a saline extract of Eimeria tenella sporozoites were used to determine optimal reaction conditions in the ELISA which were found to be at a serum dilution of 1:100 and an antigen concentration of 0.2 micro g per reaction well. Saline extracts of sporulated oocysts and purified sporozoites of E. tenella were also potent antigens but most studies were carried out with sporozoite antigen. In a trial with 80 chickens, concentrations of serum IgM directed against sporozoite antigen increased significantly 9 days after primary infection with 10 000 oocysts of E. tenella/animal. IgM levels subsequently decreased rapidly reaching a plateau level only slightly higher than uninfected controls by about 15 days post-infection. In chickens challenged with 10 000 oocysts 21 days after primary infection significant increases of IgM levels were observed 2, 6 and 12 days later. In contrast IgG levels increased only slightly after primary infection but significant increases occurred after challenge infection so that by Day 12 after challenge sporozoite-specific IgG levels were much higher than in control chickens. Thus, it may be possible to discriminate between chickens actually infected with Eimeria (as indicated by high levels of antiparasite IgM), chickens which have been repeatedly exposed to Eimeria (as indicated by high levels of antiparasite IgG), and unexposed birds. The applicability of this ELISA, using sporozoite antigen of E. tenella to practical situations was substantially confirmed, since sampling of over 1000 sera from commercially reared broilers and laying hens indicated that broilers, maintained on medicated *food*, had low levels of IgM and IgG whereas 84-97% of the laying hens, receiving drug-free feed, had relatively high IgG concentrations. These results reflect low and rare exposure to Eimeria infections in broilers and repeated exposure of the

hens. 20 ref.

**24/7/60 (Item 9 from file: 50)**
DIALOG(R)File 50:CAB Abstracts


02645083 CAB Accession Number: 931377533
**Enzyme immunoassays for detection of Salmonella in *foods*.**
Original Title: Imunoensaios enzimaticos aplicados a deteccao de Salmonella em alimentos.
Silva, N. da
Instituto de Tecnologia de Alimentos, Sao Paulo, Brazil.
Coletanea do Instituto de Tecnologia de Alimentos vol. 21 (2): p.173-186
Publication Year: 1991 --
Language: Portuguese Summary Language: english
Document Type: Journal article
The development of ELISA for the detection of Salmonella in *foods* was reviewed. Those aspects included the performance of the method and its acceptance, e.g. production of policlonal and monoclonal Salmonella antisera, *types* of *ELISA* applied to Salmonella *detection* , sensitivity and techniques for improving it, available kits and current official status of the method. 54 ref.

**24/7/61 (Item 10 from file: 50)**
DIALOG(R)File 50:CAB Abstracts


02634379 CAB Accession Number: 921452842
**Application of immunological techniques in the analysis of *foods*.**
Original Title: Aplicaciones de las tecnicas inmunologicas al analisis de los alimentos.
Rodriguez, C.; Martin, C.; Centrich, F.
Servei de Quimica, Laboratori Municipal de Barcelona, C/ Wellington, 44, 08005 Barcelona, Spain.
Alimentaria vol. 27 (215): p.29-33
Publication Year: 1990
ISSN: 0300-5755 --
Language: Spanish Summary Language: english
Document Type: Journal article
Results from the application of immunological methods in *food* analysis at the Municipal Laboratory, Barcelona, Spain are reported. These include the estimation of aflatoxins in pistachios and milk, of soya protein in manufactured meat products and *identification* of meat *species* by *enzyme*-*linked* *immunosorbent* assay and estimation of gluten by *identification* of gliadins using monoclonal antibodies. 12 ref.

**24/7/62 (Item 11 from file: 50)**
DIALOG(R)File 50:CAB Abstracts


02604552 CAB Accession Number: 921376555
**Comparison of two commercial kits for the detection of enterotoxins produced by Staphylococcus aureus strains isolated from *foods*.**
Mathieu, A. M.; Isigidi, B. K.; Devriese, L. A.
University of Liege, Faculty of Veterinary Medicine, BAT B42, B-4000 Liege (Sart-Tilman), Belgium.
Letters in Applied Microbiology vol. 14 (6): p.247-249
Publication Year: 1992
ISSN: 0266-8254 --

Language: English
Document Type: Journal article
Fifty-two biotyped and phage-typed S. aureus strs previously tested for enterotoxin production by reversed passive latex agglutination were examined with a new 'sandwich *type*' SET-*ELISA* kit designed to *detect* simultaneously 5 staphylococcal enterotoxins (SE). The strs were isolated from beef forequarters and meat cuts in Zaire. The ELISA detected 4 additional SEE producers belonging to the human or non-host-specific biotypes (phage group III or not typeable). Both methods, with the same cost/analysis, very good reliability and repeatability, are easy to use for routine work. The tested SET-ELISA kit is particularly convenient for serial analyses but requires some training for the visual interpretation of the results. 16 ref.

**24/7/63 (Item 12 from file: 50)**
DIALOG(R)File 50:CAB Abstracts


01752416 CAB Accession Number: 862281290
**Comparison of latex agglutination and *ELISA* for the *detection* of Clostridium perfringens *type* A enterotoxin in faeces.**
Berry, P. R.; Stringer, M. F.; Uemura, T.
Food Hygiene Lab., Central Public Hlth Lab., 61 Colindale Ave, London NW9 5HT, UK.
Letters in Applied Microbiology vol. 2 (5): p.101-102
Publication Year: 1986
ISSN: 0266-8254 --
Language: English
Document Type: Journal article
Of 131 human faecal specimens from cases of suspected C. perfringens *food* poisoning, examined by the reverse passive latex agglutination test (LAT) and ELISA for C. perfringens enterotoxin, 61 were positive and 62 negative in both tests. Four were positive in LAT only and four in ELISA only. The latex agglutination test is quicker and does not need special equipment. 3 ref.

**24/7/64 (Item 1 from file: 76)**
DIALOG(R)File 76:Life Sciences Collection


02080059 3971887
**A competitive enzyme linked immunosorbent assay for the determination of N-acetyltransferase (NAT2) phenotypes**
Wong, P.; Leyland Jones, B.; Wainer, I.W.
McGill Univ., Dep. Oncol., Montreal, PQ, Canada
J. PHARM. BIOMED. ANAL. vol. 13, no. 9, pp. 1079-1086 (1995)
ISSN: 0731-7085
DOCUMENT TYPE: Journal article LANGUAGE: ENGLISH
SUBFILE: Toxicology Abstracts

The ratio of 5-acetylamino-6-amino-3-methyluracil (AAMU) to 1-methylxanthine (1X) in urine samples after caffeine ingestion can be used to indicate human N-acetyltransferase (NAT2) phenotypes. In previous studies, this ratio has been determined by LC or capillary electrophoresis. The possibility that this ratio could be determined by competitive antigen enzyme linked immunosorbent assays (ELISAs) has been investigated. Polyclonal antibodies were raised in rabbits against synthetic derivatives of AAMU and 1X, and competitive antigen ELISAs were developed after isolation of the IgGs by ion-exchange chromatography. The competitive antigen *ELISA* correctly *identified* previously determined NAT2 *phenotypes* and gave the expected distribution of slow and fast

N-acetylators within a group of 48 individuals.

**24/7/65 (Item 2 from file: 76)**
DIALOG(R)File 76:Life Sciences Collection


01834208 3621368
**A sandwich enzyme-linked immunosorbent assay (ELISA) for the quantitation of selected peanut proteins in *foods***
Hefle, S.L.; Bush, R.K.; Yunginger, J.W.; Chu, Fun Sun
Dep. Med., Univ. Wisconsin, Madison, WI 53705, USA
J. FOOD PROT. vol. 57, no. 5, pp. 419-423 (1994)
ISSN: 0362-028X
DOCUMENT TYPE: Journal article LANGUAGE: ENGLISH
SUBFILE: Agricultural and Environmental Biotechnology Abstracts

A sandwich-*type*, *enzyme*-*linked* *immunosorbent* assay (*ELISA*) was developed for the *detection* of selected peanut proteins in *foods*. Monoclonal antibodies against a series of allergenic peanut proteins were used as the capture antibody. *Food* sample extracts were then added, and polyclonal rabbit antibodies directed against roasted peanut proteins were employed as secondary antibodies. The amount of allergen bound to the solid-phase was determined by a biotin and streptavidin-peroxidase system. Radioallergosorbent assay (RAST) inhibition studies of the *food* extracts were done as a comparison. The coefficient of determination for the ELISA and RAST assays was 0.85. Selected *food* samples were tested by RAST inhibition at another laboratory for comparison. Skin tests were done with selected samples in peanut-allergic adults, and the results correlated to the ELISA and RAST inhibition results.

**24/7/66 (Item 3 from file: 76)**
DIALOG(R)File 76:Life Sciences Collection


01749903 3504664
**An *ELISA* for *detection* of botulinal toxin *types* A, B, and E in inoculated *food* samples**
Potter, M.D.; Meng, J.; Kimsey, P.
Westreco/Nestle, 201 Housatonic Ave., New Milford, CT 06776, USA
J. FOOD PROT. vol. 56, no. 10, pp. 856-861 (1993)
ISSN: 0362-028X
DOCUMENT TYPE: Journal article LANGUAGE: ENGLISH
SUBFILE: Microbiology Abstracts A: Industrial & Applied Microbiology; Microbiology Abstracts B: Bacteriology; Toxicology Abstracts

An enzyme-linked immunosorbent assay (ELISA) was developed to screen for the presence of botulinal toxin types A, B, and E in inoculated *food* studies. A commercially available trivalent antitoxin (Connaught Laboratories, Ontario) was used as a capture antibody and biotinylated for use as a secondary antibody. An avidin-alkaline phosphatase conjugate coupled with an enzyme-based amplification system resulted in a high degree of sensitivity. Detection levels of purified neurotoxins in gelatin phosphate buffer were 9 LD sub(50) for type A and < 1 intraperitoneal mouse LD sub(50) for types B and E, respectively. Toxin produced by two-type F strains (proteolytic and nonproteolytic) was detected in a liquid laboratory medium. In a comparative study of over 490 samples of ground turkey meat inoculated with C. botulinum types E and nonproteolytic B, the ELISA gave no false negatives and 91 false positives. False positives were thought to be due to the presence of inactivated toxin or toxin levels insufficient to cause mouse death. Statistical analysis of these data showed an ELISA sensitivity of 100%, specificity of 70.6%, and an

efficiency of 81.4% when compared to the mouse bioassay for detection of botulinal toxins types B and E. Coffee intermediates inoculated with proteolytic Clostridium botulinum types A and B caused nonspecific death in mice but were negative for presence of toxin by ELISA.

**24/7/67 (Item 4 from file: 76)**
DIALOG(R)File 76:Life Sciences Collection


01596424 2761149
**Comparison of two commercial kits for the detection of enterotoxins produced by Staphylococcus aureus strains isolated from *foods*.**
Mathieu, A. M.; Isigidi, B.K.; Devriese, L.A.
Univ. Liege, Fac. Vet. Med., BAT B42, B-4000 Liege (Sart-Tilman), Belgium
LETT. APPL. MICROBIOL. vol. 14, no. 6, pp. 247-249 (1992.)
DOCUMENT TYPE: Journal article LANGUAGE: ENGLISH
SUBFILE: Microbiology Abstracts Section A: Industrial and Applied Microbiology

Fifty-two biotyped and phage-typed Staphylococcus aureus strains previously tested for enterotoxin production by reversed passive latex agglutination were examined with a new "sandwich *type*" SET-*ELISA* kit designed to *detect* simultaneously five staphylococcal enterotoxins (SE). The strains were isolated from beef forequarters and meat cuts in Zaire. The enzyme-linked immunosorbent assay detected four additional SEE producers belonging to the human or non-host-specific biotypes (phage group III or not typable). Both methods, with the same cost per analysis, very good reliability and repeatibility, are easy to use for routine work.

**24/7/68 (Item 5 from file: 76)**
DIALOG(R)File 76:Life Sciences Collection


01354570 2223115
**Monoclonal antibody to type F Clostridium botulinum toxin.**
Ferreira, J.L.; Hamdy, M.K.; McCay, S.G.; Zapatka, F.A.
Food and Drug Adm., Atlanta, GA 30309, USA
APPL. ENVIRON. MICROBIOL. vol. 56, no. 3, pp. 808-811 (1990.)
DOCUMENT TYPE: Journal article LANGUAGE: ENGLISH
SUBFILE: Microbiology Abstracts Section B: Bacteriology; Biotechnology Abstracts; Microbiology Abstracts Section A: Industrial and Applied Microbiology; Immunology Abstracts; Toxicology Abstracts

Hybridomas synthesizing monoclonal antibodies (MAbs) against type F Clostridium botulinum toxin were developed. MAb from one stable hybridoma, hybridoma 223, consisted of kappa light chains and an immunoglobulin G subclass 2a heavy chain. This MAb was used in a double-sandwich *enzyme*-*linked* *immunosorbent* assay to *detect* *type* F toxin in *foods*, culture fluids, and purified toxin preparations. The sensitivity of the double-sandwich enzyme-linked immunosorbent assay was similar to 10 mouse lethal doses of toxin per ml of toxic fluid.

**24/7/69 (Item 6 from file: 76)**
DIALOG(R)File 76:Life Sciences Collection


01161648 1798397
**Evaluation of a monoclonal antibody-based immunoassay for detecting type B Clostridium botulinum toxin produced in pure culture and an inoculated model cured meat system.**

Gibson, A.M.; Modi, N.K.; Roberts, T.A.; Hambleton, P.; Melling, J.
Agric. and Food Res. Counc., Inst. Food Res., Bristol Lab., Langford, Bristol BS18 7DY, UK
J. APPL. BACTERIOL. vol. 64, no. 4, pp. 285-291 (1988.)
DOCUMENT TYPE: Journal article LANGUAGE: ENGLISH
SUBFILE: Microbiology Abstracts Section B: Bacteriology; Microbiology Abstracts Section A: Industrial and Applied Microbiology; Toxicology Abstracts

A monoclonal antibody-based amplified *ELISA* method for *detecting* Clostridium botulinum *type* B toxin was evaluated for its ability to detect the toxin in the supernatant fluid of pure cultures and after growth from Cl. botulinum spores inoculated into pork slurries. Cultures of eight out of nine strains of type B Cl. botulinum and 73 of 101 slurry samples containing type B toxin were positive by ELISA the remaining 28 slurry samples contained type B toxin at levels below or close to the detection limit (20 LD sub(50)/ml) of the type B ELISA. No false-positive reactions occurred with Cl. botulinum types A, C, D, E or F, or with the 10 strains of Cl. sporogenes .

**24/7/70 (Item 7 from file: 76)**
DIALOG(R)File 76:Life Sciences Collection


01083864 1635930
**Evaluation of a monoclonal antibody-based immunoassay for detecting type A Clostridium botulinum toxin produced in pure culture and an inoculated model cured meat system.**
Gibson, A.M.; Modi, N.K.; Roberts, T.A.; Shone, C.C.; Hambleton, P.; Melling, J.
Agric. and Food Res. Counc., Inst. Food Res., Bristol Lab., Langford, Bristol BS18 7DY, UK
J. APPL. BACTERIOL. vol. 63, no. 3, pp. 217-226 (1987.)
DOCUMENT TYPE: Journal article LANGUAGE: ENGLISH
SUBFILE: Microbiology Abstracts Section B: Bacteriology; Microbiology Abstracts Section A: Industrial and Applied Microbiology

A monoclonal antibody-based amplified *enzyme*-*linked* *immunosorbent* assay (*ELISA*) method for *detecting* Clostridium botulinum *type* A toxin was evaluated for its ability to detect the toxin in the supernatant fluid of pure cultures and after growth from Cl. botulinum spores inoculated into pork slurries. Slurries containing NaCl (1 multiplied by 5-4 multiplied by 5% w/v) and polyphosphate (0 multiplied by 3% w/v) were either unheated or heated, 80 degree C/5 min + 70 degree C/2 h, before storage at 15 degree , 20 degree or 27 degree C. The presence of specific toxin was confirmed by mouse bioassay and results compared with those of the amplified ELISA method.

**24/7/71 (Item 8 from file: 76)**
DIALOG(R)File 76:Life Sciences Collection


01038452 1528539
**Comparison of latex agglutination and *ELISA* for the *detection* of Clostridium perfringens *type* A enterotoxin in faeces.**
Berry, P.R.; Stringer, M.F.; Uemura, T.
Food Hyg. Lab., Cent. Public Health Lab., 61 Colindale Ave., London NW9 5HT, UK
LETT. APPL. MICROBIOL. vol. 2, no. 5, pp. 101-102 (1986.)
DOCUMENT TYPE: Journal article LANGUAGE: ENGLISH
SUBFILE: Microbiology Abstracts Section B: Bacteriology; Microbiology

Abstracts Section A: Industrial and Applied Microbiology

One hundred and thirty one faecal specimens from cases of suspected Clostridium perfringens *food* poisoning were examined by both a reverse passive latex agglutination test and a standard ELISA test for the presence of C. perfringens enterotoxin. The latex agglutination test proved as sensitive and specific as the ELISA, and required less time at the bench without the need for specialized equipment.

**24/7/72 (Item 9 from file: 76)**
DIALOG(R)File 76:Life Sciences Collection


00942611 1247245
**"ELISA" as an aid in the identification of fish and molluscan prey of birds in marine ecosystems.**
Walter, C.B.; O'Neill, E.; Kirby, R.
Percy FitzPatrick Inst. Afr. Ornithol., Univ. Cape Town, Cape Town, South Africa
J. EXP. MAR. BIOL. ECOL. vol. 96, no. 1, pp. 97-102 (1986.)
DOCUMENT TYPE: Journal article LANGUAGE: ENGLISH
SUBFILE: Ecology Abstracts

A serological technique known as ELISA (enzyme-linked immunosorbent assay) was used in an attempt to aid the identification of visually unidentifiable seabird stomach contents. A series of seabird-prey muscle-protein antisera was established. When these antisera were tested against pieces of digested and undigested prey *species*, the *ELISA* technique *detected* the prey from both digested and undigested samples. This method also enabled rapid quantitative analysis of the samples.

**24/7/73 (Item 10 from file: 76)**
DIALOG(R)File 76:Life Sciences Collection


00547314 0231458
**A Simple Method for the Detection of Staphylococcal Enterotoxin Type B in Vanilla Custard Using the ELISA.**
Einfache Methode fuer den Nachweis von Staphylokokken-Enterotoxin-B in Vanillepudding Mittels ELISA-Test
Buening Pfaue, H.; Timmermans, P.; Notermans, S.
Chemisches Landesuntersuchungsamt NW, Sperlichstr. 19, D-4400 Muenster, FRG
Z. LEBENSM.-UNTERS.-FORSCH. vol. 173, no. 5, pp. 351-355 (1981.)
DOCUMENT TYPE: Journal article LANGUAGE: GERMAN SUMMARY LANGUAGE: ENGLISH
SUBFILE: Microbiology Abstracts Section B: Bacteriology; Microbiology Abstracts Section A: Industrial and Applied Microbiology

The *ELISA* for the *detection* of staphylococcal enterotoxin *type* B (SEB) was employed to demonstrate SEB in Dutch Vanilla custard. Due to the sensitivity of the ELISA, the extraction procedure, which is necessary when the Ouchterlony test is used, can be abbreviated to a great extent. Two successive extractions at pH 7.4 and pH 4.5 followed by a concentration (1:20) was sufficient to detect 0.1 mcg SEB in 100 g custard.

**24/7/75 (Item 1 from file: 144)**
DIALOG(R)File 144:Pascal


13275207 PASCAL No.: 97-0549592
**Isolamento di ceppi di L. innocua arilamidasi negativi mediante anticorpi**

**antiP60 e PCR**
**(Isolation of L. innocua strains with Elisa and PCR)**
CANTONI C; MANZANO M; COCOLIN L; COMI G
Istituto di Ispezione degli Alimenti di Origine Animale, Sez. I - Via Celoria 10, 20133 Milano, Italy; Dipartimento di Scienza degli alimenti - Facolta di Agraria - Via Marangoni 97, 33100 Udine, Italy
Journal: Industrie Alimentari : (Pinerolo), 1997, 36 (363) 1135-1136
ISSN: 0019-901X CODEN: INALBB Availability: INIST-10413; 354000069834160040
No. of Refs.: 11 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: Italy
Language: Italian



**24/7/76 (Item 2 from file: 144)**
DIALOG(R)File 144:Pascal


13217297 PASCAL No.: 97-0484389
**Enzyme-linked immunosorbant assays in detection of species origin of meats : A critical appraisal**
MANDOKHOT U V; KOTWAL S K
Department of Veterinary Public Health and Epidemiology, College of Veterinary Sciences, CCS Haryana Agricultural University, Hisar-125 004, India
Journal: Journal of food science and technology : (Mysore), 1997, 34 (5) 369-380
ISSN: 0022-1155 CODEN: JFSTAB Availability: INIST-5150; 354000069108230010
No. of Refs.: 2 p.3/4
Document Type: P (Serial) ; A (Analytic)
Country of Publication: India
Language: English
Identification of origin of meat products presents a serious problem to *food* analyst, who is confronted with providing a proof of fradulent substitution of mere expensive meat with cheaper meat. Thus, identification of the species and quantification of level of adulteration is a prerequisite for the regulatory control of such products. Recent developments in enzyme immuno assay techniques for the detection of species origin of meat, are critically discussed in this review. It is stressed that new approaches to species identification may have to place more emphasis on data interpretation, such as the use of specialized multivariate analysis in order to discriminate specific components of meat from other tissues.



**24/7/77 (Item 3 from file: 144)**
DIALOG(R)File 144:Pascal


12524367 PASCAL No.: 96-0198584
**Detection of species adulteration in pork products using agar-gel immunodiffusion and Enzyme-Linked Immunosorbent Assay**
HSIEH Y H P; JOHNSON M A; WETZSTEIN C J; GREEN N R
Department of Nutrition and Food Science, Auburn University, Auburn, AL 36849, United States
Journal: Journal of food quality, 1996, 19 (1) 1-13
ISSN: 0146-9428 CODEN: JFQUD7 Availability: INIST-17765;

354000044700930010
No. of Refs.: 1 p.3/4
Document Type: P (Serial) ; A (Analytic)
Country of Publication: United States
Language: English
Mixing undeclared species in meat products is illegal under *food* labeling regulations. This study compared the conventional agar-gel immunodiffusion (AGID) with the *Enzyme*-*Linked* *Immunosorbent* Assay ( *ELISA*) for *detecting* *species* adulteration and assessed the *species* adulteration problem in raw ground pork products in Alabama retail markets. Forty-two ground pork and 87 fresh pork sausage samples collected throughout Alabama were examined by AGID and ELISA for four species : pork, beef, poultry and sheep. Using ELISA, 91% of the ground pork samples were found to contain other meats while 71% were found to be contaminated using AGID. Using ELISA, 54% of the sausage samples were found to contain undeclared species while none were found to be contaminated using AGID. The major adulterating species in the pork products was beef followed by poultry and sheep. Reliable analytical methods, such as ELISA, must be used as a regulatory tool to discourage the meat species adulteration problem in retail markets.

**24/7/78 (Item 4 from file: 144)**
DIALOG(R)File 144:Pascal


11661414 PASCAL No.: 94-0517341
**Immunological identification of Trogoderma granarium Everts (Coleoptera: Dermestidae)**
STUART M K; BARAK A V; BURKHOLDER W E
Kirksville coll. osteopathic medicine, dep. microbiology/immunology, Kirksville MO 63501, USA
Journal: Journal of Stored Products Research, 1994, 30 (1) 9-16
ISSN: 0022-474X CODEN: JSTPAR Availability: INIST-12829;
354000049909750020
No. of Refs.: 23 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: United Kingdom
Language: English
A monoclonal antibody-based enzyme-linked immunosorbant assay specific for Trogoderma granarium Everts was developed. The assay could rapidly and accurately distinguish T. granarium adults, pupae and larvae from six other Trogoderma species found within the United States

**24/7/79 (Item 5 from file: 144)**
DIALOG(R)File 144:Pascal


11233327 PASCAL No.: 94-0051240
**An *ELISA* for *detection* of botulinal toxin *types* A, B, and E in inoculated *food* samples**
POTTER M D; JIANGHONG MENG; KIMSEY P
Westreco/Nestle, New Milford CT 06776, USA
Journal: Journal of food protection, 1993, 56 (10) 856-861
ISSN: 0362-028X CODEN: JFPRDR Availability: INIST-547;
354000048399740060
No. of Refs.: 23 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: USA
Language: English

**24/7/80 (Item 6 from file: 144)**
DIALOG(R)File 144:Pascal


10276993 PASCAL No.: 92-0482905
**Comparison of two commercial kits for the detection of enterotoxins produced by Staphylococcus aureus strains isolated from *foods***
MATHIEU A M; ISIGIDI B K; DEVRIESE L A
Univ. Liege, fac. veterinary medicine, 4000 Liege, Belgium
Journal: Letters in applied microbiology, 1992, 14 (6) 247-249
ISSN: 0266-8254 CODEN: LAMIE7 Availability: INIST-7415 L; 354000028727610050
No. of Refs.: 16 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: United Kingdom
Language: English
Fifty-two biotyped and phage-typed Staphylococcus aureus strains previously tested for enterotoxin production by reversed passive latex agglutination were examined with a new sandwich *type* SET-*ELISA* kit designed to *detect* simultaneously five staphylococcal enterotoxins (SE). The strains were isolated from beef forequarters and meat cuts in Zaire. The enzyme-linked immunosorbent assay detected four additional SEE producers belonging to the human or non-host-specfic biotypes (phage group III or not typable)

**24/7/81 (Item 7 from file: 144)**
DIALOG(R)File 144:Pascal


08334759 PASCAL No.: 88-0335351
**Enzyme linked immunosorbent assays for the detection of Salmonella in *foods***
**(Tests de l'immunosorbant a enzymes fixees (test ELISA) pour la detection de Salmonella dans les produits alimentaires)**
CLAYDEN J A; ALCOCK S J; STRINGER M F
Campden food preservation res. association, microbiology dep., Campden, United Kingdom
Journal: Society for applied Bacteriology Technical Series, 1987 (24) 217-229
ISSN: 0583-8924 Availability: CNRS-15056
No. of Refs.: 22 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: United Kingdom
Note: 3 tabl.
Language: ENGLISH
Evaluation des kits prets a l'emploi de *type* *ELISA* quant a leur aptitude a la *detection* et au denombrement des salmonelles de divers serotypes inoculees a de la viande crue

**24/7/82 (Item 8 from file: 144)**
DIALOG(R)File 144:Pascal


07365709 PASCAL No.: 86-0366220
**Comparison of latex agglutination and *ELISA* for the *detection* of Clostridium perfringens *type* A enterotoxin in faeces**
BERRY P R; STRINGER M F; UEMURA T
Public health lab., London NW9 5HT, United Kingdom
Journal: Letters in applied microbiology, 1986, 2 (5) 101-102
ISSN: 0266-8254 Availability: CNRS-7415L
No. of Refs.: 3 ref.

Document Type: P (Serial) ; A (Analytic)
Country of Publication: United Kingdom
Language: ENGLISH

**24/7/83 (Item 1 from file: 203)**
DIALOG(R)File 203:AGRIS


02041542 AGRIS No: 96-130047
**Development of a sensitive immunomagnetic separation *ELISA* for *detection* of Clostridium perfringens *type* A enterotoxin in faecal and *food* samples**
Cudjoe, K.S.; Thorsen, L.I. (MATFORSK, Norwegian Food Research Institute, Osloveien 1, 1430 As (Norway))
***Food* safety and quality assurance: applications of immunoassay systems: proceedings conference, Bowness-on-Windermere, Cumbria, 19-22 March 1991**
Morgan, M.R.A.; Smith, C.J.; Williams, P.A. (eds.)
Publisher: Elsevier Science Publishers Ltd. , Barking (United Kingdom), 1992, p. 299-305
ISBN: 1-85166-747-4
Notes: 12 ref.
Language: English
Place of Publication: United Kingdom
Document Type: Analytic, Monograph,
Journal Announcement: 2210 Record input by United Kingdom

**24/7/84 (Item 2 from file: 203)**
DIALOG(R)File 203:AGRIS


01437639 AGRIS No: 90-068739
**An *enzyme*-*linked* *immunosorbent* assay for *species* *identification* of raw meat**
Whittaker, R.G.; Spencer, T.L.; Copland, J.W. (Reg. Vet. Lab., Hume Highway, Benalla, Victoria 3672 (Australia))
Journal: Journal of the Science of Food and Agriculture, 1983, v. 34(10) p. 1143-1148
Notes: 14 ref.
Language: English
Place of Publication: UK
Document Type: Journal Article,
Journal Announcement: 1607 Record input by United Kingdom

**24/7/85 (Item 3 from file: 203)**
DIALOG(R)File 203:AGRIS


01396476 AGRIS No: 89-147225
**DOT-*enzyme* *linked* *immunosorbent* assay for *detection* of Clostridium perfringens *type* A enterotoxin**
Mehta, R. (Birsa Agricultural Univ., Ranchi (India). Ranchi Veterinary Coll.); Narayan, K.G.; Notermans, S.
Journal: International Journal of Food Microbiology, 1989, v. 9(1) p. 45-50
Notes: 13 refs. ISSN: 0168-1605
Language: English Summary Language: English
Place of Publication: Netherlands
Document Type: Journal Article, Summary
Journal Announcement: 1512 Record input by Netherlands

**24/7/86 (Item 1 from file: 266)**
DIALOG(R)File 266:FEDRIP


00270788
IDENTIFYING NO.: 0180010 AGENCY CODE: AGRIC
**Monoclonal Antibody-Based Enzyme Immunoassay for Detection of Meat**
ASSOCIATE INVESTIGATORS: Hsieh, Y. P.
PERFORMING ORG.: AUBURN UNIVERSITY, *FOOD* & NUTRITION, AUBURN, ALABAMA 36849
TYPE OF AWARD: HATCH |c H
SUMMARY: 1. Identify species-specific thermostable proteins as species markers in muscle *foods* . 2. Produce and characterize monoclonal antibodies against these marker proteins. 3. Develop sensitive monoclonal antibody-based *ELISA* to *detect* *species* adulteration in both raw and cooked muscle *foods*. Species-specific thermostable sarcoplasmic proteins identified from each species of meat will be used as the immunogen to produce monoclonal antibodies (Mabs) using Hybridoma technology. Epitope comparison will be made to locate the relative binding sites of Mabs on the antigen. Electrophoresis and immunoblotting will be performed to determine the antigenic components.

Both indirect and competitive ELISA formats will be tested to ensure that the Mabs developed react properly with either immobilized antigen or free antigen molecules in solution. Assay conditions will be optimized for each ELISA format. Factors afftecting the recoveries of antigen from diversified meat samples will be investigated.PR to a porcine thermal-stable muscle protein was developed for the detection of pork in cooked meat products. The assay detects specifically porcine skeletal muscle, but not cardiac muscle, smooth muscle, blood and non-muscle organs. No cross-reactivity was observed with common *food* proteins tested. Validity of the assay was evaluated with

lab-formulated and commercial meat samples. The detection limit was determined as 0.5% (w/w) pork in heterologous meat mixtures. Overall intra-assay and inter-assay coefficient of variations were 5.8% and 7.9%, respectively. The accuracy in analyzing market samples was 100% as verified by the product labeling and confirmed by a commercial polycolonal antibody test kit. We are in the process of producing monoclonal antibodies specific to horse and developing *ELISA* for the *detection* of the target *species* in cooked meat products.PB detection of pork in heat-processed meat products. J. AOAC Int. 83:79-85.

**24/7/87 (Item 2 from file: 266)**
DIALOG(R)File 266:FEDRIP


00260973
IDENTIFYING NO.: 0162191 AGENCY CODE: AGRIC
**MONOCLONAL ANTIBODY-BASED IMMUNOASSAYS FOR DETECTION OF SPECIES**
ASSOCIATE INVESTIGATORS: Hsieh, Y. P.
PERFORMING ORG.: AUBURN UNIVERSITY, *FOOD* & NUTRITION, AUBURN, ALABAMA 36849
TYPE OF AWARD: HATCH |c H
SUMMARY: Produce and characterize monoclonal antibodies against species-specific thermostable meat proteins. Develop enzyme immunochemical methods using produced monoclonal antibodies for detection of species adulterants in cooked meats. This project will produce species-specific monoclonal antibodies for thermostable substances in cooked meat. This will allow the development of a suitable *enzyme*-*linked* *immunosorbent* assay (*ELISA*) using produced MAbs to *detect* the *species* adulteration in cooked meat products. Studies to detect and quantitate adulterated meat in

heterologous species will be conducted with the procedures developed as described above.PR analysis. To date, four groups of IgG class Mabs

have been developed in our laboratory for detection of meat species adulteration. The Mab 2F8 strongly reacts with 5 cooked mammalian meat species (beef, pork, sheep, horse and deer) but not with any cooked poultry (chicken, turkey and duck). The Mab 3E12 reacts with poultry as a group; Mab 5D2 is specific to chicken and turkey; and Mab 5H9 is specific to pork. The first three groups of Mabs reacted strongly with respective cooked meat extract but not raw meat. The fourth group of Mab, 5H9, could react with both raw and cooked pork. Results of immunoblot showed that all Mabs reacted with two or more protein bands in cooked meat extracts except Mab 5H9, which detected a single band

(24 kD) in cooked pork extract. Mab 5H9 also reacted with three protein bands (20.5, 22 and 24 kD) from raw pork extract. The protein band with 24 kD was identified as a porcine-specific thermal-stable muscle protein. This is the first report in the literature that an enzyme assay based on the Mab raised against a single thermal-stable protein could differentiate species in both raw and cooked meat products. We have also isolated the species-specific muscle protein from cooked pork extract by immunoaffinity chromatography utilizing the porcine specific Mab 5H9 coupled to sepharose 4B. The antigenic protein consists of a major basic isoform and a minor group of acidic isoelectric isoforms.

An alternative separation procedure was further developed using a hydrophobic interaction chromatography followed by a strong cation exchange chromatography. The basic isoform, with molecular weight of 24 kD and isoelectric point of 9.4, was successfully isolated from cooked pork extract. This thermal-stable protein was tentatively identified as Troponin I, a myofibril protein involved in regulation of muscle contraction. This project is terminated September 30, 1998.PB thermal-stable muscle protein for detection of pork in raw and cooked meats. J. *Food* Sci. 1998, 63, 201-205.PB their application in the detection of pork in cooked meat products. Dissertation, Auburn

University. 1998.PB for the detection of pork in cooked meat products. 1998, IFT Abstract No. 59F-20.PB cooked meats using monoclonal antibody Competitive ELISA. 1998, IFT Abstract No. 59F-19.PB antibody specific to cooked mammalian meats. J. *Food* Protect. 1998, 61, 476-481.PB against heat-treated muscle proteins for the species identification and endpoint temperature determination of cooked meats. ACS Symposium, Division of Agricultural and *Food* Chemistry. 1998. Abstract No. 047.PB monoclonal antibodies specific to cooked poultry meat. Meat Sci. 1998, 50, 315-326.

**24/7/88 (Item 1 from file: 434)**
DIALOG(R)File 434:SciSearch(R) Cited Ref Sci


05514656 Genuine Article#: RW467 Number of References: 24
**Title: RADIOIMMUNOASSAY FOR CLOSTRIDIUM-PERFRINGENS ENTERO-TOXIN AND ITS USE IN SCREENING ISOLATES IMPLICATED IN *FOOD*-POISONING OUTBREAKS**
Author(s): STELMA GN; WIMSATT JC; KAUFFMAN PE; SHAH DB
Corporate Source: US FDA,DIV MICROBIOL,1090 TUSCULUM AVE/CINCINNATI//OH/45226
Journal: JOURNAL OF FOOD PROTECTION, 1983, V46, N12, P1069-1073
Language: ENGLISH Document Type: ARTICLE

**24/7/89 (Item 2 from file: 434)**
DIALOG(R)File 434:SciSearch(R) Cited Ref Sci


05151743 Genuine Article#: QS180 Number of References: 19
**Title: DETECTION OF CLOSTRIDIUM-PERFRINGENS ENTERO-TOXIN IN *FOODBORNE* DISEASES**

Author(s): DOBOSCH D; DOWELL VR
Corporate Source: CTR DIS CONTROL/ATLANTA//GA/30333
Journal: MEDICINA-BUENOS AIRES, 1983, V43, N2, P188-192
Language: SPANISH  Document Type: ARTICLE

**24/7/90  (Item 3 from file: 434)**
DIALOG(R)File 434:SciSearch(R) Cited Ref Sci


05046468  Genuine Article#: QK114  Number of References: 17
**Title: A NOSOCOMIAL OUTBREAK OF *FOOD* POISONING CAUSED BY ENTERO-TOXIGENIC CLOSTRIDIUM-PERFRINGENS**
Author(s): YAMAGISHI T; SAKAMOTO K; SAKURAI S; KONISHI K; DAIMON Y; MATSUDA M; GYOBU Y; KUBO Y; KODAMA H
Corporate Source: TOYAMA MED & PHARMACEUT UNIV,SCH MED,DEPT BACTERIOL & IMMUNOL/TOYAMA/TOYAMA 93001/JAPAN/; TOYAMA MED & PHARMACEUT UNIV HOSP,MED LAB/TOYAMA/TOYAMA 93001/JAPAN/; TOYAMA INST HLTH/KOSUGI/TOYAMA 93903/JAPAN/
Journal: MICROBIOLOGY AND IMMUNOLOGY, 1983, V27, N3, P291-296
Language: ENGLISH  Document Type: NOTE
?

**4/3,K/1 (Item 1 from file: 148)**
DIALOG(R)File 148:Gale Group Trade & Industry DB


04842479 SUPPLIER NUMBER: 08994600 (USE FORMAT 7 OR 9 FOR FULL TEXT)
**USDA to test cooked meat to identify species content. (U.S. Department of Agriculture)**
Supermarket News, v40, n40, p36(1)
Oct 1, 1990
ISSN: 0039-5803 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
WORD COUNT: 411 LINE COUNT: 00033

... by Bruce W. Ritter, director of applied biotechnology, ABC Research Corp., Gainesville, Fla., at the *Food* Marketing Institute *food* protection conference here.
The test will be used to detect any adulteration of cooked meat...

...used to establish and quantify species, pesticides, antibiotics and toxins," Ritter said.
"The Cooked Meat *ELISA* not only enables the USDA to *detect* *species* substitution done in an effort to achieve economic advantage, but it will also bring about...

INDUSTRY CODES/NAMES: *FOOD* *Food*, Beverages and Nutrition...
...DESCRIPTORS: *Food* adulteration and inspection...

...Precooked *foods*--

**24/3,K/2 (Item 1 from file: 16)**
DIALOG(R)File 16:Gale Group PROMT(R)


04199696 Supplier Number: 46141273 (USE FORMAT 7 FOR FULLTEXT)
**SHRINKING NEED FOR TOXICOLOGISTS, ANIMAL TESTING CONTROVERSY ARE AMONG NCTR'S FUTURE CHALLENGES: SCHWETZ**
Food Chemical News, v37, n51, pN/A
Feb 12, 1996
Language: English Record Type: Fulltext
Document Type: Newsletter; Trade
Word Count: 5400

(USE FORMAT 7 FOR FULLTEXT)
TEXT:
...Director Bernard Schwetz told the recent meeting of the center's Science Advisory Board (See *FOOD* CHEMICAL NEWS, Feb. 5, Page 12). Those challenges include a shrinking job market for toxicologists...
... considering seriously for its primary workforce. Such retraining could prove to be beneficial for other *Food* and Drug Administration toxicologists, and NCTR could be used as a retraining center, he said...

...data bases is not useful enough, Al Pohland, the SAB liaison from the Center for *Food* Safety and Applied Nutrition, noted, adding: "You need to take the next step of learning...

...board members' expertise was better applied to helping NCTR with priorities rather than economies (See *FOOD* CHEMICAL NEWS, Feb. 5, Page 13), some questions arose about the efficacy of NCTR's...

...involved in cooperative research and development agreements with the American Institute for Cancer Research, Best *Foods*, the Electric Power Research Institute and Procter & Gamble.
SAB and NCTR representatives agreed that the...

...as well.

Biochemical Toxicology Branch Aims to Improve Scientific Basis for Regulation of Carcinogens in *Foods*, Drugs, Devices

The ...has long-term plans to improve the scientific basis for the regulation of carcinogens in *foods*, drugs and devices by establishing whether metabolic pathways are important in animal models (and dependent... common samples; investigate the use of supercritical fluid technology for speciation of trace metals in *foods*; initiate the development of combined immunochemical/analytical chemical techniques; complete a method validation for sulfadiazine...these new systems by petitioners.

Microbiology Research Branch Is Examining Metabolism and Toxicological Effects of *Food* Additives

The Microbiology Research Branch is working to improve FDA's ability to regulate products that may be contaminated with microorganisms. Research has concentrated on: metabolism and toxicological effects of *food* additives, antimicrobials and macronutrients on the intestinal microflora; microbial production of metabolites of mycotoxins; environmental fate and effects of aquaculture chemicals; tuberculocidal disinfectant testing; detection of *foodborne* biological hazards; rapid and accurate detection methods for pathogens and toxins; and sensitive methods for...

...laboratory studies; to evaluate the role of microorganisms in toxicant degradation and detoxification; to conduct *foodborne* pathogen research and methods development, and to conduct microbiological surveillance and diagnostic support for the...

...rapid and sensitive method for the detection of low levels of pathogenic Shigella sp. in *food* by PCR amplification of genes required for cellular invasion;

- Conduct biodegradation of aquaculture chemicals;
- Develop a detection method for tracking genetically engineered microorganisms;
- Produce polygonal antibodies to C. botulinum *Type* E toxoid;
- Develop an *enzyme*-*linked* *immunosorbent* assay (*ELISA*) method for the *detection* of Clostridium botulinum *Types* A, B, E and F toxins;
- Develop a method for the detection of Shigella in uncooked, prepared *foods*;
- Develop means to screen seafoods by pyrolysis mass spectrometry for the presence of specific pathogenic...

...networks;

- Provide CVM and CFSAN with a data base to evaluate the safety of proposed *food* additives using a model to mimic the human large intestine;
- Monitor the microbial degradation and...

...polymorphisms that influence drug and carcinogen metabolism, individual cancer susceptibility, and therapeutic drug efficacy for *foodborne* heterocyclic amines and colorectal cancer and *foodborne* heterocyclic amines, aromatic amines, polycyclic aromatic hydrocarbons, and pancreatic cancer;

- Conduct human biomonitoring, DNA adduct...Focus attention on the etiology of pancreatic cancer whose risk factors suggest the role of *foodborne* heterocyclic amines, e.g., high meat and fat consumption and low intake of cruciferous vegetables...

...Develop a chemically induced rat model of "ischemic hypoxia" using 3-nitropropionic acid (3NPA), a *foodborne* agent known to produce mitochondrial dysfunction;

- Develop a neurotoxicology cell culture facility to investigate the ...

INDUSTRY NAMES: BUSN (Any type of business); CHEM (Chemicals, Plastics and Rubber); *FOOD* (*Food*, Beverages and Nutrition)

**24/3,K/3 (Item 2 from file: 16)**
DIALOG(R)File 16:Gale Group PROMT(R)


03407764 Supplier Number: 44738649 (USE FORMAT 7 FOR FULLTEXT)
**ELISA DEVELOPED FOR PEANUT ALLERGENS IN *FOOD*-PROCESSING**
Food Chemical News, v36, n15, pN/A
June 6, 1994
Language: English Record Type: Fulltext
Document Type: Newsletter; Trade
Word Count: 473

(USE FORMAT 7 FOR FULLTEXT)
**ELISA DEVELOPED FOR PEANUT ALLERGENS IN *FOOD*-PROCESSING**
TEXT:
A sandwich-*type* *enzyme*-*linked* *immunosorbent* assay (*ELISA*) has been developed to *detect* selected peanut proteins in *foods*, and could be used in a *food* -processing setting, according to a report in the May Journal of *Food* Protection.

Peanuts are the most allergic *foods* known and peanut allergens have been found in nonpeanut *foodstuffs* prepared on common processing equipment. Sensitive individuals can be inadvertently exposed this way, or from...

...peanuts, researchers say.

However, the only currently available method for quantitation of peanut allergens in *foods* is the RAST assay, a radioimmunoassay that requires peanut -allergic human sera and radiolabeled iodine-potentially hazardous substances precluding the use of the RAST assay in *food* -processing settings, according to scientists.

Researchers from Wisconsin and Minnesota, led by Susan Hefle, developed...

...antibodies against a series of allergenic peanut proteins as the capture antibody. They then added *food* sample extracts, and directed polyclonal rabbit antibodies against roasted peanut proteins as secondary antibodies. They...

...the amount of allergen bound to the solid-phase, and RAST inhibition studies of the *food* extracts were done as a comparison.

The coefficient of determination for the ELISA and RAST...

...RAST. Therefore, the ELISA could be used as an indicator assay for peanut contamination in *food* products."

They said that the useful range of detection for the *foods* they analyzed ranged from approximately 40 micrograms of peanut protein per milliliter to 2 milligrams...
...is not surprising. Use of amplification systems, improved monoclonal and polyclonal antibodies, and assessment of *food* matrix interference problems will result in increased sensitivity for peanut allergen immunoassay systems."

Peanut A. Parasiticus, Aflatoxin Synthesis Studied

The same Journal of *Food* Protection contained another study relating to peanuts, this one dealing with the effect of the...
PRODUCT NAMES: 2000000 (*Food* & Kindred Products)
INDUSTRY NAMES: BUSN (Any type of business); CHEM (Chemicals, Plastics and Rubber); *FOOD* (*Food*, Beverages and Nutrition)
NAICS CODES: 311 (*Food* Manufacturing)

**24/3,K/4 (Item 3 from file: 16)**

01344816 Supplier Number: 41589228 (USE FORMAT 7 FOR FULLTEXT)
**USDA to Test Cooked Meat To Identify Species Content**
Supermarket News, p36
Oct 1, 1990
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Trade
Word Count: 383

... by Bruce W. Ritter, director of applied biotechnology, ABC Research Corp., Gainesville, Fla., at the *Food* Marketing Institute *food* protection conference here.

The test will be used to detect any adulteration of cooked meat...

...used to establish and quantify species, pesticides, antibiotics and toxins," Ritter said.

"The Cooked Meat *ELISA* not only enables the USDA to *detect* *species* substitution done in an effort to achieve economic advantage, but it will also bring about...

INDUSTRY NAMES: BUSN (Any type of business); *FOOD* (*Food*, Beverages and Nutrition); RETL (Retailing)
?

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British Medical Journal

October 5, 1991

SECTION: Vol. 303 ; No. 6806 ; Pg. 815; ISSN: 0959-8146

LENGTH: 3444 words

HEADLINE: Association between secretor status and respiratory viral illness.

BYLINE: Raza, M.W. ; Blackwell, C.C. ; Molyneaux, P. ; James, V.S. ; Ogilvie, M.M. ; Inglis, J.M. ; Weir, D.M.

BODY:

Objective -- To determine whether non-secretion of blood group antigens is associated with respiratory virus diseases.

Design -- Study of secretor status in patients with respiratory virus diseases determined by an **enzyme-linked immunosorbent** assay (ELIS) developed to **identify** Lewis (Le) blood group antigen **phenotypes** ( Le.sup.a non-secretor; Le.sup.b secretor).

Subjects -- Patients aged 1 month to 90 years in hospital with respiratory virus disease (584 nasal specimens).

Main outcome measures -- Criteria for validation of ...

PR Newswire

October 23, 1986, Thursday

DISTRIBUTION: TO NATIONAL DESK

LENGTH: 584 words

DATELINE: CHARLOTTESVILLE, Va., Oct. 23

BODY:

... a prostate
enzyme. But the test is considered presumptive by forensic experts rather than direct confirmation, an important factor in court cases. The prostatic enzyme test also can give false positive results when contaminated with vaginal fluid or **plant** material.

The SEMA kit, an ELISA-type test, takes approximately 20 minutes for a specially trained laboratory technician to complete and gives results in two hours. The SEMA kit is complete and includes positive and negative controls. A positive reading produces a blue- ...

DATE: OCTOBER 23, 2001

CLIENT: 09641114
LIBRARY: NEWS
FILE: ALLNWS

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NUMBER OF STORIES FOUND WITH YOUR REQUEST THROUGH:
LEVEL 1... 344

Farming News

May 2, 1997

SECTION: Pg. 20

LENGTH: 404 words

HEADLINE: SECOND BMYV THREAT TO SUGAR

BODY:

TERESA RUSH takes an in-depth look into the current and proposed work in research and development, as well as new production methods and ideas being discussed in Britain's sugar beet and potato sectors.

A NEW strain of the beet mild yellowing virus (BMYV) has been identified in the UK sugar crop.

The new strain was discovered following the use of molecular testing techniques to test for variations in viruses and had previously been undetectable.

**Researchers have subsequently found that with Elisa test screening, which uses antibodies to identify variations, the new BMYV strain is indistinguishable from strains of the beet western yellows virus (BWYV), which affects oilseed rape, but does not infect the beet.**

Symptoms of the new strain seen in the plant differ from the standard BMYV symptoms, but occur at the same time, says Dr Mark Stevens of IACR- Broom's Barn.

SCREENING

Screening of beet leaves showed that the majority exhibited the typical golden yellow discolouration associated with infection by the common strain of BMYV.

But up to 10 per cent showed much paler yellow symptoms, often with the leaf tissue around each lateral vein remaining green.

Studies at Broom's Barn indicate this second strain of BMYV has a much narrower host range than the standard strain, with sugar beet at present appearing to be the only host.

"In fact, the second strain of BMYV would appear to be at a disadvantage in the field because of its restricted host range," says Dr Stevens.

However, this new strain is not as aggressive in its effect on the sugar beet crop as the common strain. In trials at Broom's Barn in 1996, root and sugar yield losses attributed to the standard strain were 24 per cent and one per cent respectively, while losses in the presence of the new strain were 17 per cent and 0.3 per cent respectively.

"This may be a reason why we see differences in the effect of virus yellows on yield," says Dr Stevens.

The identification of the second BMYV strain will have implications for sugar beet breeders trying to breed virus yellows resistant varieties.

Future research will examine the possibility of different aphid species or even different Myzus persicae clones transmitting the new BMYV strain and will also continue to develop molecular screening methods to enable differentiation between the new strain and the beet western yellows virus.

LOAD-DATE: November 11, 1997

Biotechnology Newswatch

**December** 5, 1994

SECTION: BUSINESS BRIEFS; Pg. 2

LENGTH: 113 words

HEADLINE: MicroCarb test detects E. coli toxins

BODY:

MicroCarb Inc. has developed a rapid and specific test to detect the Shiga-like toxins (SLTs) of enterohemorrhagic E. coli (EHEC), said a company spokesman.

VeroTest, which the MicroCarb official said was as accurate and sensitive as the standard cytotoxicity cell assay, shortens the time needed to identify toxin positive cultures from three days to three hours.

VeroTest is a receptor-based ELISA specifically designed to detect SLTs and to **identify** toxin producing organisms. It aids the detection of toxins that are responsible for the disease associated with E. coli 0157:H7 infections, sometimes referred to as the "hamburger disease," the official added.

URL: http://www.platts.com

LOAD-DATE: December 06, 1994

ASAP


Dairy Foods Magazine

**October,** 1994

SECTION: Vol. 95 ; No. 10 ; Pg. 41; ISSN: 0888-0050

LENGTH: 626 words

HEADLINE: Improving micro efficiencies; dairy microbiology automation

BYLINE: Gorski, Donna

BODY:

Taken for granted in many areas of food processing and component analysis, advanced technologies are gradually allowing for automation and rapid results in dairy microbiology. Considering that dairy shelflife is one of the shortest in the food industry, rapid microbiological analysis should be well-received by individuals required to assess safety, shelflife and quality, and ensure regulatory compliance.

"It's clear what people want . . . accuracy, convenience and timely results," says William Thomas, dir.-sales for a supplier of diagnostic lab tests. "Processors desire rapid methods, as long as they correlate well with standard methods and are cost-effective. Still, there are some standard methods that people are very comfortable with so they show very little interest in improved methods, regardless of whether they're rapid."

Microbiological tests

The term "rapid" generally refers to methods that give reliable results in a shorter period of time when compared with traditional methodologies. For example, an extremely well-received test for detecting post-pasteurization contamination, an ATP/bioluminescence test, delivers results in about 10 minutes, compared with the traditional standard plate count that requires 48 to 72 hours.

The ATP/bioluminescence test is based on the principle that ATP levels within any group of microorganisms are directly proportional to the number of microorganisms present. ATP is easily measured in terms of the bioluminescence resulting from the reaction between ATP and the luciferase enzyme extracted from fireflies.

"Since somatic cells in milk constitute a nonmicrobial source of ATP, separation of microorganisms or treatment of the sample to hydrolyse somatic cell ATP is necessary prior to determining ATP from bacterial cells," says Purnendu Vasavada, professor of food science at the University of Wisconsin-River Falls.

Another science applied to rapid testing is ELISA (enzyme-linked immunosorbent assay) technology. This technology has been used to screen for pathogens, spoilage organisms, toxins, pesticides and improper pasteurization.

Put simply, ELISA technology involves producing antibodies, usually obtained from either rabbits or mice, against an identified antigen, such as alkaline phosphatase. The antibodies are then bound to a solid matrix, where upon contact with the material being tested--milk, for example--binds with the antigen. The final step is to quantify the amount of unbound antibody, which is easily removed by washing or centrifugation.

**Researchers at Michigan State University, East Lansing, Mich., are in the development stage of identifying an ELISA process for rapid detection of bovine milk alkaline phosphatase, an indicator of inadequate pasteurization.**

"Once completed and approved, this kit could replace the colorimetric and fluorometric methods that require extensive training and costly reagents," says Zey Ustunol, assistant professor of food science and human nutrition. "In addition, this test is more sensitive and easier. The only real drawback is that it requires extensive research on our part."

Are rapid tests for you?

As an extension specialist in the area of food safety and dairy microbiology, Vasavada directs an annual seminar on this topic. This year's program is designed to "Provide information to help processors determine what type of testing system is most economical for their plant," he says. The program is scheduled for Oct. 12-14, at the River Falls campus. Conference topics include: biosensor and rapid-detection of microbial contaminants, roles of microbiology in HACCP, official recognition of rapid and automated methods, and developments in ELISA methods for detection of pathogens and toxins.

GRAPHIC: Cartoon

SIC: 2020 Dairy Products

IAC-NUMBER: IAC 16340086

IAC-CLASS: Trade & Industry

LOAD-DATE: September 15, 1995

ASAP


Food Engineering International

**October,** 1991

SECTION: Vol. 16 ; No. 5 ; Pg. 67; ISSN: 0148-4478

LENGTH: 2242 words

HEADLINE: Biotechnology for safe and wholesome foods.

BYLINE: Morris, Charles E.

BODY:

BIOTECHNOLOGY FOR SAFE AND WHOLESOME FOODS

Highlights of the "Meet Your Professors" symposium conducted by Unilever N.V. at its corporate research center in The Netherlands.

Seventy scientists representing Unilever-affiliated companies, universities and research centers from 14 nations convened at the Unilever Research Laboratories in Vlaardingen, The Netherlands, to review recent developments and discuss new directions in food biotechnology. Symposium theme: "Biotechnology For Safe & Wholesome Foods." Highlights follow.

(DESIGNER OILS'

Because it is widely recognized that saturated fatty acids correlate with serum cholesterol and coronary heart disease, many food processors are replacing existing fats (such as milk fat) with less saturated alternatives (such as sunflower or other oils from temperate field crops). Fat substitutions, however, affect product texture, flavor, appearance and shelf life, focusing interest on modifying oilseed crops via classical breeding or genetic engineering to produce oils with specific functionalities.

The limitations of conventional breeding can be bypassed by using cloned genes to create genetically-modified plants that produce "designer oils" with fatty-acid compositions tailored to specific applications, said Dr. C.R. Sommerville of the DOE Plant Research Laboratory at Michigan State University (USA). "I have no doubt that we can restructure plant lipids to make virtually any oil composition we want," he added. Major limitations to date: Most of the enzymes involved are poorly characterized and have not yet been purified; the mechanisms of regulation are unknown; few genes have yet been cloned. He described his work in cloning some of the genes which encode enzymes involved in lipid biosynthesis. Examples: glycerol-3-phosphate acyltransferase, stearoyl-ACP desaturase, lipid transfer proteins, cytochrome b.sub.5 .

In general, he explained, if the gene for an enzyme can be obtained from any plant species, it can be cloned and used as a probe to get the gene from any other species. "But most of the things we want to do are not that easy," he continued. Example: Getting at the enzymes which insert the double bonds in saturated fatty acids.

Sommerville's lab mutated the enzymes which introduce double bonds into the plant. "We've got the mutation which inactivates that step," he declared. The mutated gene (for fatty-acid desaturase) can now be mapped relative to other genes, and "we'll be able to use these genes from Arabidopsis to get the corresponding genes from another plant." This has already been done for several other genes.

A conceivable goal would be to replace palmitic acid (considered hyper-cholesterolemic) with stearic acid in certain plants. It is uncertain, however, what regulates the relative amounts of these fatty acids. Using mutants of the small mustard Arabidopsis (a model organism because of its small genome) defective in the enzyme glycerol-3-P-acyltransferase, significantly increased levels of C18:0 fatty acid (stearic acid) were observed. This suggests that the ratio between C16 and C18 is delicately regulated.

Production of structured lipids, however, is "some distance off," Sommerville cautioned, and current research aims at restructuring vegetable oils for more valuable non-food applications.

Production of structured lipids, however, is "some distance off," Sommerville cautioned, and current research aims at restructuring vegetable oils for more valuable non-food applications.

## NON-DAIRY FERMENTATIONS

Starter organisms used to produce flavors in fermented foods are essentially of two types: those of limited competitiveness but effective because of high initial inoculum, and those which are highly competitive and adapted to a specific substrate, observed Dr. W. P. Hammes of the University of Hohenheim (Germany). Hammes reported on recent research into improving the performance of non-dairy starter cultures through genetic engineering. One breakthrough: Getting a genetically-engineered strain of Leuconostoc oenos to express catalase activity -- important to preventing oxidation and resulting flavor defects in fermented sausage.

Within the entire Lactobacillus branch (of lactic-acid bacteria) there are no pathogens, Hammes observed, "so we tried to get our genes from organisms within this branch." Lactobacillus plantarum seems to be a good candidate for cloning genes, he continued, because "it takes over" in fermentations. L. sake (used for acid-reduced wines), L. curvatus (used for fermeted sausage), L. sanfrancisco (used for sourdough) and Leoconostoc oenos are also good candidates. Methods developed for genetically-engineering Lactococci, on the other hand, have often required substantial modifications.

## CHEESE HACCP

Although of low probability, a wide range of spoilage phenomena -- caused by unwanted products of secondary flora (e.g. toxins, biogenic amines, certain enzymes) -- may occur during production of hard, matured cheeses such as Gouda and Cheddar. The role of biotechnology in cheese production, however, should be not in trying to control secondary flora but in monitoring the process via HACCP (Hazard Analysis Critical Control Points), said Dr. P. M. Klapwijk of Unilever. "As public health hazards should be avoided by processing for safety, it is our position that biotechnology should have little to add here," said Klapwijk. But "biotechnology may well fit into the HACCP approach by offering monitoring options which can be used to guard critical control points (CCPs)." (See table.)

"After pasteurization and the introduction of primary flora (starter cultures), all contamination should be prevented by physical methods." A combination of proper raw materials, pasteurization and good process hygiene will make cheese microbiologically safe.

Biotechnology might be used to improve raw materials, however. Sileage used for feed during the winter, for example, is a major source of bacterial spores, which can be reduced but not eliminated by bactofugation, and which are not deactivated by pasteurization. Biotechnology might be used to improve sileage by introducing safe but competitive organisms.

## MICROBIOLOGICAL QA

Although physio-chemical monitoring systems are currently preferred for HACCP, there is a need for simple and rapid microbiological tests which can be adapted to the technologies and logistics of certain production processes, said Dr. J. Huis in't Veld of CIVO-TNO (Netherlands).

Hopes focus on recently-developed techniques such as flow-cytometry, and on biological methods such as immunoassays, DNA hybridization and polymerase chain reactions (PCRs). Not many of these have been used to date in food plants, however. The reasons, according to Huis in't Veld: "The wide gap which still exists between the

scientists in the laboratory and the technologists on the floor, and the fact that such tests cannot yet meet high-tech production requirements where detection of a few microorganisms within minutes would be desirable."

As noted earlier, quality and safety can be assured through high-quality raw materials and careful process design, Huis in't Veld continued. But microbiological QA can be effectively applied to: 1.) highly-processed foods; 2.) fermented foods, and 3.) foods of animal origin. "We're talking about both quality assurance and quality confidence," he added.

Rapid microbiological tests include:

1.) Impedimetry, conductometry and turbidimetry, used to determine type and total count of bacteria in raw materials.

2.) Biolumenesence (ATP measurement), also used as a hygiene parameter.

3.) DEFT (direct epifluoresence technique), which also counts cells and microorganisms.

**4.) Immunoassays (e.g. ELISA-type tests).**

5.) DNA analysis (e.g., the Gene Trak test for Salmonella.)

The last two are used to detect specific microorganisms. Sensitivity, however, is a major concern. "None of these techniques at this moment is sensitive enough to allow direct detection," said Huis in't Veld. (**ELISA tests**, for example, require at least 100,000 microorganisms for detection.) They nevertheless offer future potential, especially in "creative combinations" with other methods such as: * The polymerase chain reaction (PCR) test, which both detects and amplifies. A complete test -- sample enrichment, purification, detection, confirmation and interface -- takes about 1-1/2 days. * Flow cytometry, an optical-based system whereby microbes suspended in a liquid can be individually detected by scattered light (e.g., a laser beam).

Huis in't Veld believes that DNA probes combined with flow cytometry, capable of detecting as few as 100 cells per ml, can be used for quality assurance and predictive microbiology. This combination might also be used to measure starter cultures in fermentation processes, since DNA probes alone can detect only prokaryotic organisms, not eukaryotes. An experimental PCR design currently detects as few as 10 Campylobacter cells on chickens, but PCR combined with an enzyme immunoassay can detect as few as five Salmonella cells.

NATURAL PRESERVATIVES

Lactic-acid bacteria produce two major classes of bacteriocins (antimicrobial proteins): those cidal to a narrow range of target organisms (lactacins B and F, and lactocin 27) and usually related to the producer organism; and those (nisin, pediocin PA-1) that inhibit a broad spectrum of gram-positive organisms. Studies of several bacteriocins indicate they are non-toxic and non-immunogenic and thus "have great potential as natural preservatives" for fermented foods such as cheese, cheese spreads and creams, reported Dr. Joey D. Marugg of Unilever.

Nisin, produced by Lactococcus lactis strains, inhibits gram-positive organisms including pathogenic types such as Clostridium botulinum and Listeria monocytogenes, and is effective against Listeria at temperatures of 4 to 37 degrees C and pH 4 to 7. Several nations have cleared nisin for use in extending the shelf life of various foods including processed cheese, dairy desserts, milk (in warm climates) and several types of canned foods.

Pediocin PA-1, produced by the Pediococcus acidilactici, has been isolated from fermented meat by Unilever subsidiary Microlife Technics (Sarasota, FL) and is effective in high-moisture foods such as Cottage cheese, half-and-half cream and cheese sauces at 4 to 32 degrees C and pH 5 to 7. Tests demonstrate that it can reduce viable counts of certain gram-positive organisms by 1 million in just one day. Molecular cloning and manipulation might improve bacteriocin production, said Marugg, and antimicrobial peptides produced by systems other than lactic-acid bacteria (Apidaecins) show promise inhibiting gram-negative organisms.

CHILLED-FOODS MODEL

Dr. Par Olsson of the Swedish Institute for Food Research (Goteborg) discussed results to date of research aimed at predicting the shelf life of chilled foods. The issue: balancing high product quality with low distribution costs. If quality can be estimated with reasonable accuracy at any stage in the distribution chain, said Olsson, the distribution center may be able to improve quality control and eliminate risks without boosting distribution costs, and develop innovative distribution strategies using altered frequencies, and employing trucks with different types of equipment.

A computerized predictive-microbiology model has been developed. Tests incorporate the Lifelines integrator with bar code containing a polymer compound which changes color with cumulative temperature exposure.

RESEARCH BRIDGE

Dr. Alfredo R. Aguilar of the EC Commission's Directorate-General for Science, Research & Development (Brussels) outlined the "T" project undertaken by BRIDGE -- Biotechnology Research for Innovation, Development & Growth in Europe, 1990-93.

An extension of earlier research programs (the Biomolecular Engineering Program or BEP; and the Biotechnology Action Program, or BAP) into the genetics of lactic-acid bacteria, conducted jointly by five transnational laboratories as a pioneer European Laboratory Without Walls (ELWW), the "T" project coordinates the work of 33 laboratories in 11 EC states toward two goals: 1) Developing stable, controlled gene expression for a range of lactic-acid bacteria; and 2) production of strains meeting the specific requirements of the food and feed industries.

"The EC has a clear mandate to strengthen its scientific and technological base so it can become more competitive at the international level," Aguilar concluded.

Critical Control Points (CCPs) In Cheese HACCP

| | |
|---|---|
| Raw Milk | CCP2 |
| Holding | CCP2 |
| Bactofugation | CCP2 |
| Pasteurizing | CCP1 |
| Processing | CCP2 |
| Handling Cheesewheels | CCP2 |
| Cutting/Slicing | CCP2 |
| Distribution | CCP2 |

CCP1: Will assure control of a hazard. CCP2: Will minimize but cannot assure control of a hazard. Source: Dr. P.M. Klapwijk, Unilever Research Laboratorium Vlaardingen.

PHOTO : The global scope of Unilever, an international giant with 70 billion Dutch guilders in total sales, half of which are in food, is captured in the steel sculpture dominating the entrance to the Unilever Research Laboratories at Vlaardingen.

GRAPHIC: Photograph; Table; Critical control points (CCPs) in cheese HACCP. (table)

IAC-NUMBER: IAC 11436000

IAC-CLASS: Trade & Industry

ASAP


Food Manufacture

**September,** 1991

SECTION: Vol. 66 ; No. 9 ; Pg. 56; ISSN: 0015-6477

LENGTH: 3532 words

HEADLINE: Measuring quality in the 1990s.

BYLINE: Tuley, Liz

BODY:

Measuring quality in the 1990s

Today's food industry is strewn with increasingly high tech analytical equipment as its scientists begin to broaden their outlook towards non-traditional techniques for the industry.

Reform of food microbiology rests with the increasing use of biochemical assay methods. But the analysis of the physical and chemical features of food has also seen change, with (importation' of spectroscopic methods such as NIR and FTIR, and broader application of techniques such as NMR.

However, the food industry has to have confidence in the value of analytical results and much groundwork is being done on the validation of these analytical techniques for the industry.

The US Association of Official Analytical Chemists (AOAC) official methods board has been active this year and during its meeting in June approved the use of both Soxtec equipment for fat analysis in meat and the Fibertec E System enzymatic gravimetric method for the determination of insoluble dietary fibre in food and food products. Manufactured by Tecator in the US, the equipment is available in the UK from Perstop Analytical.

Quality management

Food companies are increasingly aware of the vulnerability of their market position should a company fail the (quality' test in some way and hit the headlines. (That sort of thing doesn't do anyone any good and destroys consumer confidence,' says Bill Whitman, head of manufacturing advisory services, Leatherhead Food Research Association (LFRA).

Many companies now have their sights on total quality management (TQM) and the introduction of BS5750/ISO9000 quality management schemes is prominent in the industry. Many companies, spurred on by the new Food Safety Act, use these types of management schemes to introduce structure and coherence into the collection and dissemination of data within their companies.

Manufacturers are required to prove that all reasonable care has been taken. (But it is a matter of what is all and what is reasonable,' says Mr Whitman.

BS5750/ISO9000, as a documented system, ensures: (You write what you do and do what you write. And in this way it proves what you've done.

(We hope the food industry sees it as an important component of a rugged quality system that can stand up to the problems that occur on a periodic basis in food manufacture,' he says. (That's what quality management is all about.'

An important issue recognised in the standard covers inspection, measuring and test equipment. And this falls in line with the requirements of the EC Directive on the Official Control of Foodstuffs.

In the guidelines Quality systems for the food and drink industries - October 1989 (and now updated) it says: (Where reliance on equipment is fundamental to the quality of the product (such as temperature control or where line check weighing equipment is used) then the measuring equipment shall be calibrated in accordance with the requirements of the Standard'.

(This is a big area and a very difficult one,' says Mr Whitman. (One of the most important areas is being able to provide reliable standards for calibration of instruments in use in factories.'

BCR in Brussels, responsible for harmonising analysis across Europe, produces known reference material for calibrating methodologies. But, for example, when calibrating a metal detector (how do you actually check that it is performing correctly?', questions Mr Whitman. When assessing a machine against an international standard, its performance depends on how the metal is presented, the temperature of the food product and the rate at which the material passes through the machine. The parameters for a particular food product have to be defined to get a true picture.

(The big thing to realise is metal is the easiest foreign body to detect and the easiest to eliminate from the product and process.'

Microbiological

standards

Independent quality assessment of microbiology has long been recognised in the clinical sector where laboratories participate in the National External Quality Assessment Scheme (NEQAS) operated by the Public Health Laboratory Service (PHLS). The PHLS has recently released details of its Food Microbiology External Quality Assessment Scheme. And now a similar service is offered to those involved in microbiological screening in the food sector by Quality Management (QM).

The company has launched its Quality in microbiology scheme which will help laboratories establish and maintain measurable performance standards.

Accreditation schemes such as NAMAS and BS5750 have proved difficult to implement in the microbiology lab because although they set standards of practice, they do not relate to performance, the lab's ability to detect the organism they are testing for.

As the value of the results of microbiological testing are likely to come under scrutiny in the law courts it might be a necessary step for food testing laboratories to participate in an external quality control scheme.

Under the quality in microbiology scheme, the microbiology laboratory Q Laboratories will produce and distribute quality control samples of a range of organisms and specimens which are common to food safety problems. Quality Management will administrate, monitor and assess the scheme.

Control specimens are supplied as 25g quantities of sterilised natural food substrates which have been seeded with a known number of micro-organisms. Delivered as dry samples which require no pre-treatment, the specimens should be processed routinely.

All of the organisms used in the programme will be traceable to stock culture collections and full biochemical, serological and phage type data can be supplied.

Participating laboratories receive samples of their selected controls through the post with instructions for testing. Each lab is known only by a code number and the report form returned to QM identifies them only by this code.

After collecting all the results, QM issues a report on organisms which should have been isolated, and statistics relating to the overall results of the scheme. This allows participating laboratories to assess their performance.

Confidence in kits

Rapid methods have come into their own as it is now widely recognised that the major food safety risk is from microbiological contamination. However, the degree of users' confidence in rapid kits varies and many seek to verify results - including the range of food research organisations.

(Rapid methods for microbiological anaysis are now part and parcel of QC/QA programmes,' says Pradip Patel, principal scientist, applied microbiology, LFRA. However, a lot of these rapid methods have not been standardised.

This has been addressed in the US with many of the rapid methods put through AOAC collaborative trials. (People rely on the data from rapid methods but there is no code of practice as to what methods can be used for what product,' says Dr Patel and this is critical if food companies are to have confidence in their results.

(You have to evaluate the system on the product that you want to analyse and you may need a sample preparation stage to get good correlation between the results from rapid and conventional methods.

(We find that here the UK , people are beginning to work on rapid methods, running them alongside conventional methods. But, there is a move away from retrospective analysis.

(A lot of analysis done is on the basis of a negative screen anyway. A positive result can be confirmed with conventional methods.

(But there is no doubt that at some point in time the industry will run these rapid methods on a routine basis,' he concludes.

Pathogen determination

Conventional protocols for detecting pathogens follow a procedure involving the isolation of the organism of interest through pre-enrichment and its growth on selective media. Pre-enrichment increases the overall levels of micro-organisms while selective enrichment reduces the effect of background organisms by promoting the growth of the organism of interest. With plating out and biochemical and serological confirmation of colonies, results are available in 5-6 days depending on the type of pathogen analysed.

A plethora of tests are now available to speed up this process: (There are 12-15 different commercial tests for Salmonella,' says Dr Patel. And an increasing number for the detection of Listeria, an organism often seen in the headlines.

These tests fall into a number of categories including: ELISAs; DNA-probe hybridisation; latex agglutination; enrichment serology and electrical.

These tests short circuit the analysis time. However, which technique to use depends on the levels of organisms present and the type of food, says Dr Patel. Results from ELISA or DNA hybridisation probes are available on the third day, as scientists still have to go through pre-and selective enrichment. Valid results are obtained from these techniques only if levels of 10.sup.4 - 10.sup.6 cfu/ml are achieved.

If, for example, levels of Salmonella reach > 10.sup.7 cfu/ml latex agglutinatino tests can be applied. (By and large latex agglutination tests work well on colonies isolated on a plate,' says Dr Patel, with results available in less than 3min.

Although there are a range of latex agglutination tests for Salmonella, Campylobacter, Clostridium perfringens and a range of toxins from Staphylococcus aureus, B. cereus and E. coli, there are none for Listeria.

Gene probes, available from the American companies Gene Trak Systems and Gen-Probe Inc, can be used with this organism. The colourimetric Gene Trak system gives a visual assay for Listeria sp. Alternatively Gen-Probe uses a chemiluminescent assay for the detection of Listeria monocytogenes - the predominant organism in human pathology - and Campylobacter, says Dr Patel.

Sample preparation

Although rapid methods do speed up the time required for analysis, sample preparation is often required. (You have to separate out the organism of interest, otherwise both the food matrix and other organisms interfere with the results,' he says.

LFRA is doing research into speeding up methods of sample preparation: (We are working by and large on sample preparation of pathogens (eg Salmonella) from food, separating it physicochemically and immunologically.

(We want to develop a test which will give an answer in real time not retrospectively.'

Dielectrophoresis separation techniques may prove an answer. Using a flow-through electrode system, micro-organisms concentrate at the internodes of the electrode while a high frequency field is applied. (The separation, on the basis of polarisation of charge on the surface of bacteria, can be compared with the arrangement of iron filings on a magnet,' says Dr Patel. The concentration process takes 2-5min, but is not selective at the moment. This might be made possible by using different frequencies and manipulating cell surfaces.

An immunomagnetic separation technique has been developed which results in increased sensitivity. Small magnetic particles (supplied by Dynal) immobilised with antibodies against Salmonella are added to the sample broth. The sample is shaken for 10min allowing the organisms to bind to the antibodies. The particles bearing Salmonella are then pulled out of the sample by a magnet.

Then any detection system - ELISA, bioluminescence, DNA probe, etc - can be used. Results can be available in 24h following separation and after 6h of pre-enrichment of raw fleshy foods. If a Bactometer is used, results are available in 24-48h.

Bioluminescence and electrical techniques such as the Bactometer from bioMerieux UK Ltd (created by the merger of bioMeriuex and Vitek) and the Malthus systems are established in industry. (Both these techniques have been around for over 10 years,' says Dr Patel. (But any new method requires a lot of work done on the science involved, particularly the clean-up and the detection stage.

(Electrical based tests are best characterised for the detection of Salmonella in confectionery and dairy products. But applications are still being developed in other products for Salmonella detection.

(You need to ensure that a signal in the detection system is specific to what you're looking for. All this takes time, but certain of these methods are becoming a reality.'

In fact, the Malthus Salmonella methods has been granted AOAC approval, the first time a conductance methods for the detection of a food pathogen has been approved, says the company.

(The method is approved for all food groups,' says Alan Hilary, sales and marketing manager, Malthus Instruments. The company is now seeking approval in other countries but, says Mr Hilary: (With no EC standards set yet, it drives you crazy'.

The Malthus Salmonella Method as published in the official AOAC journal The referee February 1991, requires the use of two disposable cells containing selective media, which are inoculated with a pre-enriched sample and incubated in a Malthus analyser (the Malthus 2000 and the dedicated 1000S automated Salmonella testing analyser). Results are presented as presumptive pass/fail or as conductance data or graphically. The presence of Salmonella can be detected within 24h (including pre-enrichment time) and negative samples are screened out within a total of 46h.

Yeasts and moulds are other spoilage flora of concern to the industry and both bioluminescence and electrical methods are beginning to be used in their analysis.

Chemunex (France) has developed the Chemflow flow cytometer geared to the analysis of yeasts and moulds, the first commercial bench top instrument of this kind. Designed for analysis of fermented milk products, (this is beginning to be used for QC procedures', says Dr Patel.

One area that rapid methods have made an impact, is in hygiene monitoring. Bioluminescence procedures can produce results in 10-15min, a yes/no answer giving a quick method of determining if a surface is clean.

Generally the results indicate the total biomass on the plant surface which includes the contribution made by micro-organisms. For example, meat cell components will produce a reaction similar to a bacterium. But there are reagents which discriminate between microbial and non-microbial contamination.

Results available in 10-15min compare with the traditional time scales of 2 days for total viable counts (TVCs), 3-4 days for yeast and 5 days for moulds. However, there are limitations to bioluminescence tests, says Dr Patel. Effective detection is dependent on the level of organisms present; for instance, TVCs can be determined if there are > 10.sup.4 cfu/g.

Sensors

(Any sensor you pick up is relevant to quality assurance,' says Martin Wiltshire, research scientist, process technology, LFRA. (If you can measure a property you can take steps to keep that property constant.

Scientists at Leatherhead are investigating the potential of ultrasonics and acoustics as sensing techniques. AEA Technology is also working in the acoustics field.

(When a mechanical process takes place, acoustic emissions usually accompany it,' says Mr Wiltshire. Each process has a unique (signature' of sound. And this pattern of sound can be measured and taken as an indication of the conditions in the process. (A change in the noise generated by a process is frequently the first indication that there has been a change in the state of the operation.'

Acoustic emission technology has application in the food industry including: * Ensuring CIP processes are working correctly. The RA has looked at the ultrasonic acoustic emissions associated with a tank being cleaned in place by sprayed cleaning fluid. The sensor (listens' to the noise generated by the impact of the water jet against the metal wall of the vessel with the signal indicating flowrate of cleaning fluid. Any disturbance of the ideal sound pattern indicates something is wrong; * Monitoring of expanded extruded products. In the case of the CIP, sound is measured through a solid wall. In this instance a microphone-type sensor is used to pick up sound through air. The nature of the noise made as the product leaves the extruder, indicates its uniformity, amount of expansion and its quality.

The benefits of using acoustic emission in this way include: the generation of on-line bulk density and textural information ((a continuous and instant indication of product density'); immediate warning that product is out of specification; and extruder problems.

However, there can be a number of parameters which affect the noise signature without a very big change in the product and these have to be identified for any particular system; * Powder flow. As powder flows through a pipe, noise is created from its frictional impact with the sides. Measurement of this can be used as the basis of a non-invasive, (cost effective' in-line monitoring device for the indication of flow/no flow, but could be extended for use in flow rate determination. With additional sensors particle breakdown or damage can be detected.

In this way it could be possible to check that the right amount of powdered ingredients are present in a mixture. (If someone forgot to put an ingredient in or put it in twice, the technique would pick it up,' says Mr Wiltshire.

(In some batch or semi-continuous operations, noise with time eventually becomes a constant value and this could be used in determining process efficiency, indicating when to stop mixing.'

The use of this type of sensor is known in engineering as an established technique for testing of bearings and predicting failures. (But, these are expensive and interpretation of the noise levels emitted is difficult,' warns Mr Wiltshire. (The electronics and sensors themselves have been modified so they can bolted on and are robust and now have real application in the food industry.'

The next stage for acoustic emission sensors is moving towards the use of (ideal' acoustic signatures for processes and matching to them. This is similar to the concept of a spectra (fingerprint'. But it is more complex than developing a calibration (signature'. For example, if looking at extrusion every machine will have a different signature and this signature can vary fractionally from day to day just as a handwritten signature varies slightly when using different pens.

(A lot of processes have a characteristics signature,' says Dr Tudor Roberts, head of process technology, LFRA. (The next stage is to look at fairly advanced signal processing technology.

(We have to teach the system to recognise signatures of each process and product coming off.' A neural network may be the answer.

Ultrasonics is also being used as the basis for sensor technology (Food Manufacture July 1990). (Analysing the way in which sound wave passes through a material can be used to indicate a change in its physical properties,' says LFRA.

The time taken for a sound wave to travel through a process stream can be related to a product's density and ultrasonics can be used to measure bulk density of liquids and some semi-solids.

The mismatch solution

But, for some food products their air content or composition make it impossible to transmit a sound wave from one side of a process stream to another. To address this problem the RA has developed a (mismatch' sensor which does not require the sound wave to travel all the way through the substance to obtain a measurement.

The sensor works by looking as what happens to a sound wave when it meets a boundary between two materials, in this case an aluminium rod (which transmits the sound) and the food. Some energy is reflected and some transmitted into the food medium. And the ratio of the reflected to the transmitted sound energy depends on the density of the rod and the density of the food.

This surface technique can be used to determine bulk density and the air content of aerated products such as marshmallow and mousses. It can also be applied to chocolate tempering with the mismatch probe monitoring the ratio of solid: liquid fat.

For whatever application, (manufacturers are looking for 100% inspection on products with sensors compatible with the process itself. They want to put something reliable, robust and with repeatable results on-line and forget about it,' observes Mr Wiltshire.

Conclusions

(Spending money on quality pays off,' says Dr Mark Kierstan, director of LFRA. (It takes minutes to ruin a quality image but years to build it up. Large or small, there is no short cut to quality systems for a food company. But QA must be part of management not just the production manager's problem.'

ASAP


Supermarket News

**October** 1, 1990

SECTION: Vol. 40 ; No. 40 ; Pg. 36; ISSN: 0039-5803

LENGTH: 428 words

HEADLINE: USDA to test cooked meat to identify species content; U.S. Department of Agriculture

BODY:

USDA to Test Cooked Meat To Identify Species Content

WASHINGTON - The U.S. Department of Agriculture plans to use a new testing technology to assay the species content of processed and cooked meat.

Cooked Meat Species ELISA was described by Bruce W. Ritter, director of applied biotechnology, ABC Research Corp., Gainesville, Fla., at the Food Marketing Institute food protection conference here.

The test will be used to detect any adulteration of cooked meat with regard to species content, as well as any contamination by antibiotics or toxins.

"This method can be used to establish and quantify species, pesticides, antibiotics and toxins," Ritter said.

**"The Cooked Meat ELISA not only enables the USDA to detect species substitution done in an effort to achieve economic advantage, but it will also bring about other processing plant changes."**

These changes involve practices such as more thorough machine cleanings and the reworking of products.

"The ability to test for species has changed the name of the game," Ritter said.

Not only can these changed manufacturing practices have an effect on public safety, but they will heighten the confidence of consumers who are on restricted diets, for religious or health reasons.

"Consumer confidence is the life blood of the supermarket," he said. "That confidence must be maintained."

Using ELISA, dealing with shoppers' complaints can be streamlined.

Complaints generally involve problems or errors in several areas, Ritter said

* Processing problems.

* Packaging problems, specifically migration.

* Formulation errors.

Now that there is technology-to test for species content and for the presence of contaminants such as salmonella and listeria in processed and cooked meat, some consumer concerns can be addressed scientifically and factually, he said.

Another application for the ELISA technology may be used in the seafood industry.

Ritter said that the University of Florida is looking at the method with an eye toward using it to positively **identify** red snapper and other fish filets as well as shrimp.

The **ELISA** method involves the production of an antibody that bonds to a desired substance, which may be the particular species, for example.

A coating of microelisa plates with the antibody is applied to a specially designed surface, and a sample of the substance is applied.

The surface is rinsed, and a biotinylated antibody is applied, followed by an agent that will change color if the substance contains what is being looked for.

GRAPHIC: Portrait; Bruce W. Ritter. (portrait)

SIC: 9641 Regulation of agricultural marketing ; 5411 Grocery stores ; 5812 Eating places

IAC-NUMBER: IAC 08994600

IAC-CLASS: Trade & Industry

LOAD-DATE: August 16, 1995